



Columbia University
in the City of New York

TEACHERS COLLEGE

ANNOUNCEMENT

1898-99

NOTE

COLUMBIA UNIVERSITY offers the following courses :

In COLUMBIA COLLEGE :

A four-years' course leading to the degree of A.B.

In the SCHOOL OF LAW :

A three-years' course leading to the degree of LL.B.

In the SCHOOL OF MEDICINE (College of Physicians and Surgeons):

A four-years' course leading to the degree of M.D.

In the SCHOOL OF MINES :

A four-years' course in Mining Engineering leading to the degree of E.M.

“ “ Mining and Geology “ “ E.M.

“ “ Metallurgy “ “ Met.E.

In the SCHOOL OF CHEMISTRY :

A four-years' course in Analytical Chemistry leading to the degree of B.S.

“ “ Industrial Chemistry “ “ B.S.

“ “ Organic Chemistry “ “ B.S.

In the SCHOOL OF ENGINEERING :

A four-years' course in Civil Engineering leading to the degree of C.E.

“ “ Sanitary Engineering “ “ C.E.

“ “ Electrical Engineering “ “ E.E.

“ “ Mechanical Engineering “ “ Mech.E.

In the SCHOOL OF ARCHITECTURE :

A four-years' course in Architecture leading to the degree of B.S.

In TEACHERS COLLEGE :

Certain courses that are accepted in partial fulfillment of the requirements for the degrees of A.B., A.M., and Ph.D.; besides various courses leading to the Teachers College diploma.

Also many courses under the various faculties, especially the Faculties of Philosophy, Political Science, Pure Science, and Applied Science, leading to the university degrees of Master of Arts and Doctor of Philosophy. A combination of courses under the Faculties of Law and Political Science leads to the degree of Master of Laws.

The first-year courses of the School of Law, the School of Medicine, the School of Mines, the School of Chemistry, the School of Engineering, and the School of Architecture are open, as electives, to Seniors in the College who have become students of the College not later than the Junior year. Consequently such Seniors can prepare themselves for advanced standing in these schools by electing these first-year courses and counting them for the degree of Bachelor of Arts.

By a judicious arrangement of his course from the beginning, a student in the College may complete his college and professional course together, in the Schools of Law and of Applied Science in six years, and in the School of Medicine in seven years.

In addition to the regular courses that lead to the various degrees, Columbia University, in order to meet the needs of persons who wish to make a serious study of any special branch of knowledge, offers to them, according to their stage of advancement, special courses in Philosophy, in History, in Literature and the Languages, and, under certain restrictions, in Pure and Applied Science. For admission to any one of these special courses, the student must show that he is competent to take the course. On the completion of such special course a certificate will be granted by the faculty under which his principal subject lies.

Information and circulars as to any of the above courses may be had by addressing the Secretary of the University.

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TRUSTEES

CHAIRMAN

SPENCER TRASK

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WILLIAM MILLIGAN SLOANE,
Ph.D., L.H.D.

SETH LOW, LL.D.

OFFICERS OF ADMINISTRATION

- SETH LOW, LL.D.,
President of the University
- JAMES E. RUSSELL, Ph.D.,
Dean of Teachers College
- VIRGIL PRETTYMAN, A.M.,
Principal of Horace Mann School
- JOHN F. WOODHULL, A.B.,
Professor in Charge of Buildings and Grounds
- WALTER H. NICHOLS, B.S.,
Secretary to the Dean
- LUCETTA DANIELL,
Registrar
- ELIZABETH G. BALDWIN,
Librarian
- MARY C. BRUSH,
Assistant Registrar
- GUSTAV VIEHL,
College Organist
- CAROLINE E. CABOT, M.D.,
Examining Physician
- JOHN PERRY SEWARD, M.D.,
Examining Physician

REPRESENTATIVES IN UNIVERSITY COUNCIL

- JAMES E. RUSSELL, Ph.D., *ex-officio*
- FRANKLIN T. BAKER, A.M. (*term expires 1899*)

FACULTY.

SETH LOW, LL.D., *President*

JAMES EARL RUSSELL, *Dean*.....History of Education
A.B., Cornell University, 1887; Ph.D., Leipzig, 1894;
teacher in secondary schools, 1887-90; principal of second-
ary school, 1890-93; student in the Universities of Jena and
Leipzig, 1893-95; professor of philosophy and pedagogy in
the University of Colorado, 1895-97; professor of the his-
tory of education, Teachers College, 1897-, and Dean,
1898-; European Commissioner of the Regents of the
University of the State of New York, 1893-95; agent of the
Bureau of Education, Washington, 1893; member of the
American Psychological Association.

NICHOLAS MURRAY BUTLER...Philosophy and Principles of Education
A.B., Columbia University, 1882; A.M., 1883, and Ph.D.,
1884; university fellow in philosophy, 1882-85; student at
the Universities of Berlin and Paris, 1884-85; assistant in
philosophy, Columbia College, 1885-86; tutor, 1886-89, and
adjunct professor, 1889-90; professor of philosophy, ethics,
and psychology, and lecturer on the history and institutes
of education, 1890-95; professor of philosophy and educa-
tion, 1895-; president of the New York College for
the Training of Teachers, 1887-91; member of the Ameri-
can Psychological Association, the National Council of
Education, and the New York Academy of Sciences; editor
of the *Educational Review*.

FRANK MORTON MCMURRY.....Theory and Practice of Teaching
Ph.D., Jena, Germany, 1889; student at University of Mich-
igan, 1881-82; principal of schools in Illinois, 1883-86; stu-
dent at Universities of Halle and Jena, 1886-89; prin-
cipal of grammar school, Chicago, 1889-90; professor
of pedagogics and training teacher in State Normal
School, Normal, Ill., 1891-2; student at Geneva and Paris,
1892-93; professor of pedagogy in the University of Illi-
nois, 1893-94; principal of Franklin School, Buffalo, 1894-
95; professor of pedagogics in Teachers College, Univer-
sity of Buffalo, 1895-98; professor of theory and practice of
teaching, Teachers College, 1898-

JAMES MCKEEN CATTELL.....Psychology
A.B., Lafayette College, 1880, and A.M., 1883; Ph.D.,
Leipzig, 1886; student at Göttingen, Leipzig, Paris, and

Geneva, 1880-82; fellow of Johns Hopkins University, 1882-83; student and assistant in the University of Leipzig, 1883-86; lecturer in the University of Cambridge, 1888; professor of psychology, in the University of Pennsylvania, 1888-91; professor of experimental psychology, 1891-96; professor of psychology, 1896-; member of the American Psychological Association, the American Philosophical Society, the New York Academy of Sciences, the London Aristotelian Society, the London Neurological Society, the American Physiological Society, and the American Society of Naturalists; co-editor of the *Psychological Review*; responsible editor of *Science*

JOHN FRANCIS WOODHULL.....Physical Science
A.B., Yale College, 1880; teacher in secondary school, 1881-82; principal, High School, Chicopee Falls, Mass., 1883-85; student in chemistry and physics, Johns Hopkins University, 1886; professor of natural science, State Normal school, New Paltz, N. Y., 1887-88; professor of natural science, Teachers College, 1889-

FRANKLIN THOMAS BAKER.....English Language and Literature
A.B., Dickinson College, 1885, and A.M., 1889; teacher of Greek, mathematics, and English in secondary schools, 1885-92; student in Harvard University, 1892; instructor in English and mathematics, Horace Mann School, 1892-93; professor of English language and literature, Teachers College, 1893-

EDWARD HOWARD CASTLE.....History
A.B., Denison University, 1888; teacher of mathematics, Greek, and history in secondary schools, 1888-93; A.M., Harvard University, 1894; instructor in history, Horace Mann School, 1894-96; associate professor of history, Teachers College, 1896-97; professor of history, 1897-

RICHARD ELWOOD DODGE.....Geography
A.B., Harvard, 1890; A.M., 1894; assistant in geology, Harvard University, 1891-94; instructor in geology, Harvard University, 1894-95; instructor in geology and geography, Teachers College, 1895-96; associate professor of natural science, 1896-97; professor of geography, 1897-; fellow and recording secretary of New York Academy of Sciences; fellow Geological Society of America; fellow American Geographical Society; member Boston Society of Natural History, Geological Society of Washington,

D. C., and the British Association for the Advancement of Science; editor of *The Journal of School Geography*.

HELEN KINNE.....Domestic Science
Diploma, Teachers College, 1890; teacher in private classes, 1886-88; instructor in domestic science, Teachers College, 1891-97; professor of domestic science and director of the department, 1897-

MARY DUNCAN RUNYAN.....Kindergarten
St. Louis Kindergarten Training School, diploma, 1880; graduate student, 1880-84; instructor in St. Louis Kindergarten Training School, 1880-84; instructor of kindergarten and elementary grades, 1884-94; principal of the kindergarten and instructor in normal classes, Pratt Institute, 1894-95; instructor in Isabel Crow Kindergarten Association, 1895-96; instructor in Kindergarten, 1896-97; professor of kindergarten methods and director of the department, Teachers College, 1897-

ALFRED VANCE CHURCHILL.....Art
Student in Oberlin College, 1881-87; A.M., Oberlin College, 1898; student in the Königlische Hochschule, Berlin, the University of Leipzig, and the Academie Julien, Paris, 1887-90; director of the art department, Iowa College, 1891-93; instructor in St. Louis Secondary and Normal Schools, 1893-97; professor of art and director of the department, Teachers College, 1897-

CHARLES RUSSELL RICHARDS.....Manual Training
Graduate of Massachusetts Institute of Technology, 1885; assistant superintendent of Whittier Machine Company, 1885-87; teacher of manual training, Industrial Education Association, 1887-88; professor of manual training and director of department of science and technology, Pratt Institute, 1888-98; professor of manual training and director of the department, Teachers College, 1898.

VIRGIL PRETTYMAN.....Principal of Horace Mann School
A.B., Dickinson College, 1892; A.M., 1895; instructor in Latin and Greek in Dickinson College Preparatory School, 1892-94; instructor in Latin and Greek in Horace Mann School, 1894-95; principal, 1895-

FREDERICK REMSEN HUTTON.....Mechanical Engineering
A.B., Columbia University, 1873; A.M., 1876; C.E. and M.E., School of Mines, 1876; Ph.D., Columbia University,

1882; assistant in civil and mining engineering, School of Mines, 1876-77; instructor in mechanical engineering, 1877-81; adjunct professor, mechanical engineering, 1881-91; professor in mechanical engineering, 1891-; author *Machine Tools and Wood-working Machinery*, U. S. Census Report, 1897; associate editor *Mechanics*; department editor Johnson's *Encyclopedia*.

Other Officers of Instruction

FRANCIS ERNEST LLOYD.....Biological Science
A.B., Princeton University, 1891; A.M., 1895; assistant in biology, Williams College, 1891-92; professor of biology and geology, Pacific University, Oregon, 1892-95; professor of biology, Pacific University, Oregon, 1895-97; associate professor of biological science, Teachers College, 1897-; botanist of Lumholtz expedition to Mexico, 1892; botanist, Columbia College expedition to Puget Sound, 1896; associate editor, *Bulletin of The Torrey Botanical Club*.

CHARLES EARL BIKLÉ.....Mathematics
A.B., Dickinson College, 1886; A.M., 1889; teacher in secondary schools, 1886-90; instructor in mathematics, Dickinson College Preparatory School, 1890-92; instructor in mathematics, secondary school, 1892-93; instructor in mathematics, Horace Mann School, 1893-97; associate professor of mathematics, Teachers College, 1897-

MARY SCHENCK WOOLMAN.....Domestic Art
Graduate of Maryanna Longstreth School, Philadelphia, Pa., 1878; private study, 1878-82; Teachers College, diploma, 1895; instructor in domestic art, Teachers College, 1893-97; associate professor and director of domestic art, 1897-

CHARLES BENJAH GILBERT.....School Supervision and Management
A.B., Williams College, 1876; teacher in private school, 1876-77; principal of high schools, Mankato, Minn., Winona, Minn., Beaver Dam, Wis., Oshkosh, Wis., 1878-83; principal of high school, St. Paul, Minn., 1883-89; superintendent of schools, St. Paul, 1889-96; superintendent of schools, Newark, N. J., 1896; lecturer on school supervision and management, Teachers College, 1897-; member of the National Council of Education

man

- MARGARET STANTON LAWRENCE.....Physical Training
A.B., Vassar College, 1876; student in Woman's Medical College, 1876-77; student in the Jenness Miller School of Physical Training, 1890; graduate of the Anderson Normal School of Gymnastics, 1891; student in the Harvard Summer School of Gymnastics, 1892; student of Mrs. Wordsworth, London, 1894; student in the Emerson Summer School, 1895; instructor in physical training and director of the gymnasium, Teachers College, 1891-
- WILLIAM SMITH ROBINSON.....Drawing and Painting
Graduate of Massachusetts Normal Art School, 1884; instructor, Maryland Institute, School of Art and Design, 1885-89; student in Academie Julien, Paris, 1889-90; instructor in water-color painting, Drexel Institute, 1891-93; instructor, Pennsylvania Academy of Fine Arts, 1892; instructor in freehand drawing and painting, Teachers College, 1894-
- JULIA HELEN WOHLFARTH.....Theory and Practice of Teaching
Graduate of Norwich Free Academy, 1879; instructor in elementary schools, 1880-90; instructor, Connecticut Normal School, 1890-92; instructor, Norwich Training School, 1892-94; student at Cornell University, 1894-95; teacher in Horace Mann School, 1895-96; instructor in psychology and general method, Teachers College, 1896-98; instructor in theory and practice of teaching, 1898-
- GUSTAV VIEHL.....Music and Voice Training
Pupil of S. P. Warren, A. R. Parsons, C. C. Müller, and J. Tamaro, 1879-92; instructor in music and voice training, Teachers College, and College organist, 1896-
- PAUL MONROE.....History
A.B., Franklin College, 1890; Ph.D., University of Chicago, 1897; principal secondary schools, Indiana, 1890-94; graduate student, University of Chicago, 1894-97; senior fellow in sociology, University of Chicago, 1895-97; instructor in history, Teachers College, 1897-
- GEORGE PHILIP KRAPP.....English
A.B., Wittenberg College, 1894; A.M., Wittenberg College, 1897; student at Johns Hopkins University, 1894-97; scholar in Johns Hopkins University, 1895-96; instructor in English, Horace Mann School, 1897-98; Teachers College, 1897-

- CHARLES PRENTICE BENNS.....Metal Working
M.E., Stevens Institute of Technology, 1889; draftsman, Garvin Machine Company, N. Y., 1890; foreman of Machine Shop of Builders' Iron Foundry, Providence, R. I., 1891; superintendent Brown & Sharpe Manufacturing Company, Providence, R. I., 1892-93; teacher of applied mechanics and machine-shop work, Manual Training High School, Providence, R. I., 1892-97; instructor in metal working, Teachers College, 1897-
- EDWIN APPLETON FINCH.....Woodworking
Foreman in Rowland Brothers' Machine Shop, New Haven, 1881-84; instructor, Boardman Manual Training High School, 1894-97; instructor in woodworking, Teachers College, 1897-
- LOUIS ROUILLION.....Mechanical Drawing
B.S., Cornell University, 1891; teacher in secondary schools, 1890-93; instructor in mechanical drawing, Pratt Institute, 1893-98; instructor in mechanical drawing, Teachers College, 1898-; author of *Course in Mechanical Drawing*
- Psychology
Instructor in Psychology, Teachers College, 1898-
- Woodworking
Instructor in woodworking, Teachers College, 1898-
- Forging
Instructor in forging, Teachers College, 1898-
- JENNY FRANCES LEWISDrawing
Massachusetts Normal Art School, diploma, 1886; graduate student, 1886-87; student in Salem Normal School, 1887-88; private classes, 1886-87; supervisor of drawing, Watertown, Mass., 1888-89; supervisor of drawing in Richmond, Ind., 1891-93; instructor in drawing, Horace Mann School and Teachers College, 1893-
- ELLEN YALE STEVENS.....English and History
Teachers College, diploma, 1893; instructor in English and history, Horace Mann School, 1893-; student in Chicago University, summer quarter, 1896 and 1897
- MAY BELLE VAN ARSDALE.....Chemistry
Teachers College, diploma, 1893; assistant in physical science, Teachers College, 1893-97; instructor in chemistry, Horace Mann School, 1897-

- KATHARINE MORE COCHRAN.....Greek and Latin
A.B., Vassar College, 1890; instructor in Latin and English, Albion (N. Y.) High School, 1890-94; graduate student, Columbia University, 1894-95, 1897-98; instructor in Latin and mathematics, Horace Mann School, 1894-95; instructor in Greek and Latin, Horace Mann School, 1895-
- MARY ROGERSWood-carving
Student in Teachers College, 1892-94; Cooper Institute, diploma, 1893; student in Metropolitan Art School, 1892-94; student in Art League, 1893; student in Pratt Institute, 1896-97; instructor in wood-carving, Horace Mann School and Teachers College, 1893-
- IDA BENFEY.....Voice Training
B.L., University of California, 1883; pupil of Steele MacKaye, 1887-89; pupil of Alexander Melville Bell, 1888-89; pupil of Dion Boucicault, 1889-90; instructor in voice training, University of the Pacific, 1878-87; instructor in voice training, Horace Mann School and Teachers College, 1895-
- CHARLES MCCOY BAKER.....Latin
A.B., Dickinson College, 1893; teacher in secondary schools, 1893-94; student at Teachers College, 1894-95; instructor in Latin and mathematics, Horace Mann School, 1895-98; instructor in Latin, 1898-
- ELIZABETH CARSS.....Biology and Geography
A.B., New York City Normal College, 1893; Ph.B., Cornell University, 1895; Teachers College, diploma, 1897; assistant in science, 1895-96; instructor in biology and geography, Horace Mann School, 1897-
- EUGÉNIE MENUT.....French
Graduate of the University of France, 1872; instructor in French in secondary schools, 1872-93; assistant in French, Horace Mann School, 1893-98; instructor in French, 1898-
- ELIJAH WILLIAM BAGSTER-COLLINSGerman
Student in Berlin, 1891-93; A.B., Brown University, 1897; instructor in German, Brown University, Extension Department, 1895-96; instructor in German, Horace Mann School, 1897-
- HERBERT VAUGHAN ABBOTT.....English
A.B., Amherst College, 1885; teacher in secondary schools, 1886-88; literary critic, *Commercial Advertiser*, 1890-91; graduate student, Harvard University, 1894-96; assistant

and instructor in English, Harvard College, 1894-98; instructor in English, Horace Mann School, 1898-

MARY DAVIS CHAMBERS.....Drawing
Students in Washington University, 1885-87, and St. Louis Art Museum, 1882-87, also 1890-91; assistant supervisor of drawing in St. Louis public schools, 1894-98; instructor in drawing, Horace Mann School and Teachers College, 1898-

SUSAN WHITCOMB HOAGLAND.....History
A.B., Vassar College, 1895; teacher in Springfield Seminary, 1895-96; teacher in Friends' School, Brooklyn, 1896-97; instructor in Berkeley Institute, 1897-98; instructor in history, Horace Mann School, 1898-

..... Mathematics
Instructor, Horace Mann School.

AMY SCHÜSSLER.....First Grade
Teachers College, diploma, 1889; teacher of first grade, Horace Mann School, 1889-

IDA ELIZABETH ROBBINS.....Fourth Grade
Oswego Normal School, diploma, 1888; principal of elementary schools, 1888-90; teacher of fourth grade, Horace Mann School, 1890-

MARY BROWNSON GILLMORE.....Eighth Grade
Teachers College, diploma, 1891; teacher in private school, New York City, 1891-93; teacher of eighth grade, Horace Mann School, 1893-; student in Columbia University, 1897-98; student in Harvard Summer School, 1897

EVELYN BATCHELDER.....Second Grade
Student in Chelsea Training School, 1891; teacher in elementary schools, 1891-94; teacher in second grade, Horace Mann School, 1894-

SUSAN ADELE LATHROPSixth Grade
Teachers College, diploma, 1893; teacher in elementary schools, 1893-95; teacher of sixth grade, Horace Mann School, 1895-

MILDRED IONE BATCHELDERThird Grade
Student in Westfield Normal School, 1887-88; Springfield Normal School, diploma, 1889; teacher in elementary schools, 1889-95; teacher of third grade, Horace Mann School, 1895-

- CAROLINE WOODBRIDGE HOTCHKISS.....Seventh Grade
Teacher in elementary and secondary schools, 1881-89;
principal of Froebel Academy, 1889-95; student in Radcliffe
College, 1895-96; teacher of seventh grade, Horace Mann
School, 1896-
- WINONA MARION PRATT.....Fifth Grade
Bridgeport Training School, diploma, 1895; graduate stu-
dent at Potsdam Normal School, 1896-97; teacher in ele-
mentary schools, 1895-96; teacher of fifth grade, Horace
Mann School, 1897-
- MARY EDWARDS CALHOUN.....Lower Seventh Grade
Packer Institute, diploma, 1893; teacher in Tome Institute,
1894-96; Teachers College, diploma, 1898; teacher of lower
seventh grade, Horace Mann School, 1898-
-Lower Second Grade
- MERIEL WHEELER WILLARD.....Kindergarten
Teachers College, diploma, 1892; instructor in public
kindergarten, 1892-93; teacher in the kindergarten, Horace
Mann School, 1893-
- LOUISE CHRISTINE SUTHERLAND.....Kindergarten
Teachers College, diploma, 1894; instructor in private
kindergarten, 1894-95; teacher in the kindergarten, Horace
Mann School, 1895-
- ISABEL COBB FRENCH.....Kindergarten
Lowell School of Design, diploma, 1890; Boston Normal
School, diploma, 1894; director of Quincy Shaw Kinder-
garten, Boston, 1894-95; assistant in public kindergartens,
1895-96; director in public kindergartens, 1896-97; teacher
in the kindergarten, Horace Mann School, 1897-
- LUCY HESS WEISER.....Manual Training
Teachers College, diploma, 1895; instructor in manual
training, Horace Mann School, 1895-
- MARY SEWARD.....Physical Training
Teachers College, diploma, 1893; teacher in elementary
schools, 1893-95; assistant in physical training, Horace
Mann School, 1894-98; instructor in physical training,
1898-
- EDITH ANNA MCINTYRE.....Domestic Science
Teachers College, diploma, 1892; director of department of
domestic science and art, State Normal School, Greens-

boro, N. C., 1892-95; assistant in domestic science, Teachers College, 1895-

KATE STUART ANTHONY.....Domestic Art
Student in Pratt Institute, 1896-97; teacher in elementary schools, 1892-96; assistant in domestic art, Teachers College, 1897-

ALETTA VAN WYCK SCHENCK.....Domestic Art
Instructor in Pratt Institute, 1888-91; teacher in Woman's Institute, Yonkers, N. Y., 1894-96; assistant in domestic art, Teachers College, 1894-

MATILDA GARRETSON REA.....Domestic Art
Graduate of the Moravian Seminary, Bethlehem, Penn., 1876; assistant in domestic art, Teachers College, 1894-

JEANNETTE BLISS GILLESPIE.....English
Teachers College, diploma, 1896; assistant in English, 1894-95; instructor in English, Horace Mann School, 1895-97; assistant in English, 1897-

JAMES JARDINEPhysical Training
Instructor in Dr. Savage's Gymnasium; Instructor, Horace Mann School, 1897-

SUZETTE HAYESPhysical Training
Student in Teachers College, 1894-95; student in Art League, 1895-96; student in Dr. Savage's Gymnasium, 1896-97; assistant in physical training, 1897-

TEACHERS COLLEGE

GENERAL STATEMENT

Teachers College, founded in 1888 and chartered by the Regents of the University of the State of New York on January 12, 1889, became, by an agreement dated March 22, 1898, a part of the educational system of Columbia University. The President of Columbia University is president, *ex officio*, of Teachers College, and the university professors of philosophy and education and of psychology are members of the faculty of Teachers College, which is, in turn, represented upon the University Council by the Dean and an elected representative of its Faculty.

Teachers College maintains its separate corporate organization, and its Board of Trustees continues to assume the entire financial responsibility for its maintenance.

Teachers College is the professional school of Columbia University for the study of education and the training of teachers. It takes academic rank with the Schools of Law, Medicine, and Applied Science. The purpose of Teachers College is to afford opportunity, both theoretical and practical, for the training of teachers of both sexes for elementary and secondary schools, of specialists in various branches of school work, and of principals, supervisors, and superintendents of schools. It offers to students of university grade and to experienced teachers the most ample facilities for practical work, as well as for special study and research.

Columbia University accepts courses in education as part of the requirements for the degrees of A.B., A.M., and Ph.D. Graduate students who prefer to devote their entire time to professional study and investigation may become candidates for the higher diploma of Teachers College. The college diploma is conferred upon students who have successfully

completed some one of the general courses enumerated below; and a departmental diploma upon those who have fitted themselves for particular branches of school-work. Certificates of work actually performed are granted to students who have pursued partial courses. The course of study for intending teachers in secondary schools is so arranged that undergraduate students of Columbia and Barnard Colleges may, if they so desire, obtain the diploma of Teachers College at the time of receiving the degree of Bachelor of Arts.

The Horace Mann School, fully equipped with kindergarten, elementary, and secondary classes, is maintained by Teachers College as a school of observation and practice. It offers unexcelled advantages for the investigation of educational problems and for the study of the practical work of teaching.

COURSES OF INSTRUCTION

Education

1. History of education. Lectures, essays, and discussions. Three hours weekly throughout the year. Professor RUSSELL M., W., and F. at 3.30, Room 20, Main Building.

In the first half-year of this course the chief types of ancient education—Egyptian, Chinese, Hebrew, Greek, and Roman—are presented in the light of the history of civilization; the continuation of the course in the second half-year gives special attention to the interaction of Greek, Roman, and Christian influences in forming the educational ideals and shaping the school systems of mediæval and modern times. A part of the course is devoted to the reading and discussion of selections from the ancient classics and the works of later writers on education.

Required in the last year of the course of all candidates for a college or departmental diploma.

2. Principles of education. Lectures, essays, and discussions. Two hours weekly throughout the year. Professor BUTLER

Tu. and Th. at 3.30, Room 415, Columbia Library.

This course aims to lay the basis for a scientific theory of education considered as a human institution. The process of education is explained from the standpoint of the doctrine of evolution, and the fundamental principles thus arrived at are applied from the threefold standpoint of the history of civilization, the developing powers of the child, and the cultivation of individual and social efficiency. During a portion of the course, Butler's *Meaning of Education*, Harris's *Psychologic Foundations of Education*, and Rosenkranz's *Philosophy of Education* are used as texts and books of reference.

Required of all fourth-year students who are candidates for the College diploma in secondary and elementary teaching.

3. Applications of psychology in teaching. Discussions, essays, and collateral reading. Three hours, second half-year. Professor McMURRY

M., W., and F. at 11.30, Room 20, Main Building.

This course is concerned with both the science and art of education; with the science so far as it is dependent upon the laws of mental development; with the art so far as it involves the application of these laws in observing, planning, and teaching a lesson. The special aim is

the development of a scientific method of the recitation and the application of the principles of method to individual studies and to standard textbooks.

Open only to students who have completed Philosophy A, or its equivalent, and prerequisite to Education 4 and all practice in teaching. Required of all candidates for a college or departmental diploma.

4. Observation and practice in teaching. Conferences and discussions following investigation of class methods; the preparation of lesson-plans and practice in teaching under guidance. Three hours of observation and practice and one conference weekly throughout the year, counting as a three-hour course. Professor McMURRY, Miss WOHLFARTH, and the heads of departments concerned.

M. at 1.30, and other hours as arranged, Room 20, Main Building.

This course aims to acquaint students with the practical problems of the schoolroom and the methods of teaching followed in the various divisions of the Horace Mann School and in other schools accessible to students in New York and vicinity. Extended practice in teaching in the Horace Mann School can not be guaranteed, but it is expected that, as heretofore, properly qualified students will have sufficient opportunity to demonstrate their ability to teach.

Open only to students who have completed Philosophy A and Education 3. Required of all candidates for the college diploma in elementary and kindergarten teaching, and for the departmental diploma in domestic science and art.

5. General method. The ends of education, the relative worth of the means employed in their realization, the correlation of studies, and the relation of thought to memory. Lectures, reports on reading, and discussions. Three hours during the first half-year. Professor McMURRY

M., W., and F. at 11.30, Room 21, Main Building.

The aim of this course is to determine the philosophical principles underlying the science and art of education. Special stress is placed upon the personality of the teacher and the nature of the curriculum in their relation to the development of good character in children. This course supplements Education 2, and may profitably be taken with it.

Open as elective to graduates and properly qualified students in the last year of the course. Required of fourth-year students who are candidates for the college diploma in kindergarten teaching.

6. School supervision and management. The practical problems of school economy. Lectures, essays, and discussions. One session weekly throughout the year, counting as a two-hour course. Superintendent GILBERT

Hours to be arranged, Room 20, Main Building.

This course includes work in school criticism and discipline; observation and study of typical school conditions, school organizations, departments, classification, courses of study, school appliances, school construction, and sanitation. Attention will be given to the duties of principals in the supervision and management of graded schools, both as to material and educational interests. Special study will also be made of the duties of the school superintendent; departmental business relating to the school board, appropriations and expenditures, buildings, plans, construction, sanitation, and equipment; professional work in organization, visitation, inspection, direction, instruction, classification, including the superintendent's relation to the regular and special teachers, and his responsibility in the selection and training of teachers.

Open as elective to graduates, properly qualified seniors and special students.

7. Comparative study of educational systems. The national systems of Germany, France, and England compared with our own; free and compulsory education; administration and supervision; training of teachers; appointment; salaries and pensions; school curriculums; methods of teaching; relations of elementary, secondary, and higher education; special problems in secondary education. Lectures and supplementary reading. Two hours weekly throughout the year. Professor RUSSELL

Given in 1897-98; and in alternate years thereafter.

8. Secondary education. The historical development of secondary schools in Europe and America; the purpose and means of secondary education; the curriculum of the American high school; the correlation of studies and the pedagogical problems involved in secondary education. Lectures and discussions based on reports of original investigation. Two hours weekly throughout the year. Professor RUSSELL

Tu. and Th. at 2.30, Seminar Room, Bryson Library.

This course will be offered in 1898-99 and in alternate years thereafter. Elective for graduates and properly qualified fourth-year students.

9. Physical and mental development of the child. Conferences, private readings, and observation. Two hours weekly throughout the year. Mr.

Tu. and Th. at 11.30, Room 21, Main Building.

This course is supplementary to the prescribed courses in systematic and applied psychology. It is designed to give an introduction to the history and literature of child-study, its methods, and practical applications.

Open to students who are taking, or have completed, Philosophy A and Education 3. Required of third-year students, who are candidates for the college diploma in elementary and kindergarten teaching.

10. Primary methods. Lectures, observations, discussions, preparation and criticism of lesson plans, and practice in teaching. Two hours weekly during the first half-year. Miss WOHLFARTH

M. and W. at 2.30, Room 21, Main Building.

This course is designed to give kindergarten students and others interested in primary teaching a general knowledge of the work of the lowest grade.

Open as elective to qualified students. Required of fourth-year students who are candidates for the college diploma in kindergarten teaching.

11. Methods of teaching art in elementary and secondary schools. Class work, with lectures, conferences, and observation. Four hours weekly throughout the year, counting as a two-hour course. Mrs. CHAMBERS

M. and F., 1.30-3.30, Lecture Room, Macy Building.

For ART, see pages 11-19.

12. Methods of teaching biology in elementary and secondary schools. Lectures, discussions, laboratory, and field-work. Three hours weekly throughout the year, counting as a two-hour course. Professor LLOYD

Hours to be arranged, Biological Laboratory, Milbank Building.

For BIOLOGY, see pages 20-24.

13. Methods of teaching English in secondary schools. Lectures, essays, discussions, reports of observation, and practice teaching. Three hours weekly throughout the year, counting as a two-hour course. Professor BAKER

Hours to be arranged, English Lecture Room, Milbank Building.

For ENGLISH, see pages 32-35.

14. Methods of teaching English in elementary schools. Lectures, essays, discussions, reports of observation, and practice teaching. Three hours weekly during the first half-year. Professor BAKER

M., W., and F. at 1.30, English Lecture Room, Milbank Building.

15. Methods of teaching French in secondary schools. (Not given in 1898-99.)

16. Methods of teaching geography and geology in elementary and secondary schools. Lectures, discussions, laboratory work, and collateral reading. Three hours weekly throughout the year, counting as a two-hour course. Professor DODGE

Hours to be arranged, Geographical Laboratory, Main Building.

For GEOGRAPHY and GEOLOGY, see pages 36-39.

17. Methods of teaching German in secondary schools. (Not given in 1898-99.)

18. Methods of teaching Greek in secondary schools. Lectures, essays, discussions, reports of observation, and practice teaching. Three hours weekly throughout the year, counting as a two-hour course. Miss COCHRAN, with the co-operation of Professor PERRY, Professor WHEELER, and Dr. YOUNG

Hours to be arranged, Room 15, Main Building.

For GREEK, see page 39.

19. Methods of teaching history in secondary schools. Lectures, essays, discussions, reports of observation, and practice

teaching. Three hours weekly throughout the year, counting as a two-hour course. Professor CASTLE

Hours to be arranged, History Lecture Room, Milbank Building.

For HISTORY, see pages 40-44.

20. Methods of teaching history in elementary schools. Lectures, essays, discussions, reports of observation, and practice teaching. Two hours weekly during the second half-year. Professor CASTLE

W. at 2.30, History Lecture Room, Milbank Building.

21. Methods of teaching Latin in secondary schools. Lectures, essays, discussions, reports of observation, and practice teaching. Three hours weekly throughout the year, counting as a two-hour course. First half-year, Latin XI—Latin bibliography, Professor PECK; second half-year, Mr. C. M. BAKER M. and W. at 2.30, and other hours to be arranged, Room 15, Main Building (second half-year).

For LATIN, see page 48.

22. Methods of teaching manual training in elementary and secondary schools. Lectures, reports on reading and observation, and practical work. Three hours weekly throughout the year, counting as a two-hour course. Professor RICHARDS

Hours to be arranged, Conference Room, Macy Building.

For MANUAL TRAINING, see pages 48-52.

23. Methods of teaching mathematics in secondary schools. Lectures, discussions, and practical work. Three hours weekly throughout the year, counting as a two-hour course. Professor BIKLÉ

Hours to be arranged, Mathematical Room, Milbank Building.

For MATHEMATICS, see pages 53-54.

24. Methods of teaching mathematics in elementary schools. Lectures, discussions, and practical work. Three hours weekly during the second half-year. Professor BIKLÉ

M., W., and F. at 1.30, Mathematical Room, Milbank Building.

25. Methods of teaching physical science in elementary and secondary schools. Physics—first half-year; chemistry—second half-year. Lectures, discussions, and practical work. Three hours weekly throughout the year, counting as a two-hour course. Professor WOODHULL

Hours to be arranged, Science Rooms, Main Building.

For PHYSICAL SCIENCE, see pages 60-62.

NOTE.—Education **11, 12, 13, 15, 16, 17, 18, 19, 21, 22, 23** and **25** are required of candidates for the Teachers College diploma in the several subjects to which they relate. A total of nine hours' credit for courses in subject-matter, selected with the approval of the Dean of Teachers College, must also be secured in each subject offered for the diploma in secondary teaching.

SEMINARS IN EDUCATION

1. Administration of public education in the United States. One session weekly throughout the year. Professor BUTLER
Hour to be arranged to meet the convenience of students.
Columbia Library, Room 415.

2. Training for citizenship—an historical study of the methods employed in China and Greece in their bearings on public education in the United States. One session weekly throughout the year. Professor RUSSELL
Hour to be arranged to meet the convenience of students.
Bryson Library, Seminar Room.

3. The curriculum of the elementary school. One session weekly throughout the year. Professor McMURRY
Hour to be arranged to meet the convenience of students.
Bryson Library, Seminar Room.

The purpose of the Seminars is training in methods of research in the history, theory, and practice of education. Except in rare instances, membership is confined to those candidates for the higher degrees or higher diploma who have chosen Education as their major subject. Concrete educational problems are minutely studied, and the reports are subjected to criticism and discussion.

EXTENSION COURSES

1. Methods of teaching in elementary schools. A consideration of the practical problems of instruction to meet the needs of public-school teachers. Twenty lectures. Professor McMURRY

S. at 10.30, Room 20, Main Building—beginning October 8.

Registration fee, \$1.

2. Child-study. An introduction to the history and literature of child-study, its methods and practical applications. Ten lectures. Miss WOHLFARTH

S. at 11.30, Room 20, Main Building—beginning October 8.

Registration fee, \$1.

The Department of Education is the professional center of all the College work. The courses in the history and philosophy of education, the theory and practice of teaching, and the various branches of school economy are supplemented by courses in the methods of teaching all the typical subjects of the elementary and secondary schools. Students who have a comprehensive knowledge of the subject which they intend to teach—always the first essential in a teacher's equipment—will find in these educational courses ample facilities for professional training. In each department the work of instruction and training is vitally related to the school of observation and practice. This school, which contains all grades, from kindergarten to college or technical school, exists primarily to enable the instructors and students of the College to observe and illustrate how educational theory can be put in practice, and how practical considerations may modify theory. It is the laboratory of the College and an indispensable adjunct of the department of Education.

Anthropology

ANTHROPOLOGY I.* (a) General introductory course. Lectures, essays, and discussions. Two hours weekly during the first half-year. Dr. FARRAND

This course treats in a general way of the science of anthropology, the relation of human intelligence to that of the lower animals, and general questions of ethnology, such as classification of races, early culture, the origin of language, religion, etc.

(b) Ethnology and geography. Lectures. Two hours weekly during the second half-year. Dr. RIPLEY

This course treats especially of physical geography and ethnology in their relation to modern economics, political and social facts.

(a) and (b) are taken together and count as a two-hour course.

ANTHROPOLOGY II. Primitive culture. Lectures, papers, and discussions. Two hours weekly. Dr. FARRAND

M. and W. at 12.30, Psychological Laboratory, Schermerhorn Hall.

This course will consist of a more detailed treatment of the questions involved in primitive culture, such as the origin and development of mythology, early philosophy, morality and religion, art, language, social customs, etc.

Art

1. Elementary freehand drawing. Blocking-in, pencil measurement, vertical and horizontal tests by means of plumb-line; drawing by judgment and feeling in the first stage, and testing and correcting afterward; groups of type-forms, still-life, and casts, placed above, below, and on a level with the eye; sketches of plants, vegetables, etc.; freehand perspective; study of

* In this catalogue courses of instruction designated by Roman numerals, as Anthropology I, Latin X, etc., are Columbia courses which may be offered, under the general regulations of the University, as electives by properly qualified students in Teachers College. These courses are numbered to correspond with the numbers given in the Departmental Announcements for 1898-99. Courses designated by Arabic numerals are regular courses in Teachers College.

sketches and drawings in outline by masters. Four hours weekly throughout the year, counting as a two-hour course. (College students intending to specialize in this department do two hours' outside work.) Professor CHURCHILL

Tu. and Th., 10-11.30, Freehand Drawing Room, Macy Building.

This course is intended to give the foundation in drawing necessary to work in the studio. It is prerequisite to Courses 2 and 14.

Open to qualified students as elective; recommended to first-year college students intending to specialize in this department. Required of first-year students who are candidates for the departmental diploma in manual training, and for the college diploma in elementary and kindergarten teaching.

2. Light and shade. Method and correct construction continued. Charcoal, pencil, and brush-work from still-life, plants, vegetables, and casts; occasional poses; expression of form, color, and atmosphere through values; outline work and freehand perspective continued; study of masterpieces of light and shade drawing, original and reproduced. Studio work, with class and individual instruction. Eight hours weekly (six in class and two outside sketching) throughout the year, counting as a four-hour course. Miss LEWIS

Tu. and Th., 9.15-11.30, Studio No. 2, Macy Building.

This course introduces light and shade. Simplicity and breadth are sought rather than finish. The work is of such a character as will best prepare the student for advanced studio work in drawing and painting. Prerequisite to Courses 3, 4, and 7.

Open as elective to all students who have completed Course 1, or its equivalent. Recommended to second-year college students intending to specialize in this department.

3. Antique. Charcoal work from casts made from life and the antique; also groups of still-life, flowers, fruit, vegetables, etc.; sound construction; light and shade rendering in full values; expression of color through black and white; occasional sketching from pose; study of masterpieces of charcoal, pencil, and monochrome. Individual studio work, with instruction according to advancement and needs of each student. Pencil, pen and ink, chalk, etc., used at discretion of teacher.

Eight hours weekly throughout the year, counting as a four-hour course. Mr. ROBINSON

M. and W., 9.15-11.30, and Tu., 9.15-10.45, Studio No. 2, Macy Building.

This course gives the severe discipline in proportion, construction, and values necessary as a preparation for work in teaching, and for profitable study from nature in color. Prerequisite to Course 4 for students in regular courses.

Open as elective to any student who has completed Course 2, or its equivalent. Required of college students specializing in this department, in their third year. Recommended to students in the departmental course in the first year, unless exceptionally qualified in drawing.

4. Painting. Groups of still-life, vegetables, and fruits; draperies, interiors, etc., in water-color and oil. Attention to method and construction. Work in color is based on truth of value, and charcoal and monochrome are taken up at intervals at discretion of teacher. Outdoor work in spring and fall. Study of masterly sketches in oil and water color. Occasional sketches from the pose. Individual studio work; each student treated according to his peculiar needs and advancement. Eight hours weekly of studio work throughout the year, counting as a four-hour course. Mr. ROBINSON

M. and W., 9.15-11.30, and Tu., 9.15-10.45, Studio No. 1, Macy Building.

This course aims to give the strength in perception of values and color, which will enable the student to do creditable work from nature and prepare him for teaching in primary and secondary schools.

Open as elective to any student not specializing in this department, who has completed Course 2, or its equivalent. Course 3 is strongly recommended, however, as preparation for Course 4. Required of fourth-year college students specializing in this department. Recommended to students of the departmental course in their second year, unless exceptionally qualified in painting.

5. Advanced painting. A continuation of Course 4. Still-life, interiors, draped model, etc. Outdoor work in spring and fall. Individual studio work, in oil and water color. Eight hours weekly throughout the year, counting as a four-hour course. Mr. ROBINSON

M. and W., 9.15-11.30, and Tu., 9.15-10.45, Studio No. 1, Macy Building.

This course enables the student to do special work in painting.

Open as an elective to any student who has completed Course 4, or its equivalent.

6. Sketch-class. Cultivation of facility in drawing, at the same time preserving good construction. Work in outline alone; outline reinforced by tint; broad light and shade rendering in simple values; water-color landscape, etc. Outside work in sketching and composition is required weekly for criticism. Class work with individual instruction and lectures. Two hours weekly in classroom and two of outside work throughout the year, counting as a two-hour course. Professor CHURCHILL

F., 9.15-10.45, School Drawing Room, Macy Building.

The aim of this course is to give students that practical power in sketching and board-work without which their teaching must prove ineffective, and to give them that attitude toward nature and art which will enable them to realize artistic expression through the simplest means.

Method work is first introduced in this class. Discussion of ways of presenting conscious drawing in elementary classes. Blackboard work.

Open to students who have completed Course 2, or are taking it. Required of third-year college students specializing in this department, and of first-year students who are candidates for the departmental diploma in art.

7. Advanced sketch-class. A continuation of Course 6. Sketching and drawing made habitual; work in values with various media; outside sketching and composition required weekly for criticism; ways of presenting light and shade and color; the subject of refinement in color; freehand construction and perspective used in schools as introductory to mechanical drawing. Two hours weekly in class and two outside throughout the year, counting as a two-hour course. Professor CHURCHILL

Th., 9.15-10.45, School Drawing Room, Macy Building.

Open to students who have had Course 6, or its equivalent. Required of fourth-year college students specializing in this department, and of second-year students in the departmental course.

8. Clay modeling. Elementary form-study with clay; type-forms and simple objects based on them; copying of casts of ornament, animals, etc.; application of clay work to other subjects of the curriculum. Class and individual work, together with methods. Two hours weekly throughout the year, counting as a one-hour course. Miss LEWIS

F., 1.30-3.30, Modeling Room, Macy Building.

This course is designed to give definite conceptions of form and to prepare teachers for work with clay in the first four or five grades of the elementary school.

Open to all students who have completed Course 2, or are taking it. Required of first-year students who are candidates for the departmental diploma in art, and recommended to first-year college students who intend to specialize in this department.

9. Design. The study of space arrangement and analysis of line; the logic of construction in simple objects; principles of composition; invention and application of design, beginning with simple arrangements of line, and light and dark spaces; blackboard work and large sketches for facility; laws of composition as applied in the arrangement of groups; introduction of classic ornament. Owen Jones, Rosengarten, Racinet, Viollet le Duc, and others constantly used for reference. Class work with lectures. Two hours weekly throughout the year, counting as a one-hour course. Miss ROGERS

Th., 1.30-3.30, School Drawing Room, Macy Building.

The aim of this course is to develop the sense of what is appropriate and beautiful in composition, and the power to create it. A series of problems is worked out in line and space values, whose object is, primarily, to give satisfaction to the eye. The standpoint is analytic and constructive rather than imitative. Comparatively little work from flat copy. Drawing of classic ornament is done whenever possible from the cast, thus strengthening the student in freehand drawing and reinforcing his work at the foundation. Use of time-saving devices encouraged.

Open to any student who has completed Course 1, or its equivalent. Required of first-year students who are candidates for the departmental

diploma in art, domestic art, and manual training, and of second-year college students specializing in this department.

10. Advanced design. A continuation of Course 9. Invention of arrangements in light and dark tones, and color, applied to book-covers, pages, wall paper, textiles, etc.; blackboard sketching continued; Egyptian, Assyrian, Greek, Roman, Byzantine, Romanesque, Saracenic, Gothic, Renaissance, and Japanese design. Authoritative works on these subjects constantly referred to. Two hours weekly throughout the year, counting as a one-hour course. Miss ROGERS

F., 9.15-10.45, School Drawing Room, Macy Building.

This course is planned to give increased power in the matter studied under Course 9, and in historic ornament. Freehand drawing is encouraged. The work in ornament is done when possible by sketching from the cast and from objects. Large flat copies of ornament from the best sources are made by students for their use in teaching. Every device for saving time is encouraged.

Open to any student who has completed Course 9, or its equivalent. Required of second-year students who are candidates for the departmental diploma in art and domestic art, and of fourth-year college students specializing in this department.

11. Wood-carving. The execution of design. Adaptation of design to materials and conditions. Wood-carving the chief medium; pyrography, iron and leather work, also studied. Masterpieces reproduced in casts, photographs, and cuts constantly used for reference. Studio work, adapted to the individual. Four hours weekly throughout the year, counting as a two-hour course. Miss ROGERS

Tu. and Th., 1.30-3.30, Wood-carving Room, Macy Building.

The aim of this course is to connect actual practice with theory, and enable the teacher to lead pupils to carry out design with the pencil, knife, hot poker, scissors, brush, or other means.

Open to all students, in regular courses, who have completed Course 9, or are taking it. Recommended to second-year college students specializing in this department. Required of second-year students who are candidates for the departmental diploma in art.

12. Advanced wood-carving. A continuation of Course **II**. Original design of greater difficulty and its execution in articles of value, such as chests, chairs, and other articles requiring expert workmanship. Individual studio work. Four hours weekly throughout the year, counting as a two-hour course. Miss ROGERS

Hours to be arranged, Wood-carving Room, Macy Building.

This course gives an opportunity for specialization in practical wood-carving.

Open as an elective to students who have completed Courses **9**, **10**, and **11**.

13. History of art. A critical study of great styles and masterpieces, ancient and modern, in architecture, sculpture, and painting; other arts discussed—dress, pottery, interior decoration, etc. Study of processes, autographic, and reproductive; etching, casting, wood cut, mezzotint, silver point, etc. Choosing of casts and pictures for elementary school work, and their interpretation by children. Continual reference to library books and art collections. Lectures, conferences, visits to museums and exhibitions for the study of originals. Lectures by specialists at the Metropolitan Museum of Art. Two hours weekly throughout the year, counting as a one-hour course. Professor CHURCHILL

F. at 10.45, Lecture Room, Macy Building.

The aim of this course is to cultivate the æsthetic sense. The topics are taken up in chronological order, but the standpoint is not so much historical as interpretative. The course serves as a basis for general reading in art history and criticism.

Recommended to third-year college students specializing in this department. Required of first-year students who are candidates for the departmental diploma in art, and of second-year students who are candidates for the departmental diploma in domestic art.

14. Applied freehand drawing. Application of drawing as an aid to the teacher's work in elementary classes; illustration on the blackboard; rapid and easy sketching in chalk and pencil, according to correct principles; constructional drawing in nature work; maps, plans, etc.; simple studies of animals and posed figure. Four hours weekly throughout the year, counting as a two-hour course. Professor CHURCHILL

Tu. and Th., 1.30-3.30, Freehand Drawing Room, Macy Building.

The purpose of this course is to give students power to use drawing as an aid in teaching young children; also to enable them to teach drawing intelligently under supervision.

Open to any student who has completed Course 1, or its equivalent. Required of second-year students who are candidates for the college diploma in elementary and kindergarten teaching.

EDUCATION 11. Methods of teaching art in elementary and secondary schools. Working out of lessons in detail with methods of presenting them; planning of courses and correlation with other studies; use of drawing in nature work; present status of school drawing, and adaptation of work to existing conditions; equipment and expense estimates; comparisons of the best systems and courses of form and color study and drawing; observation of expert teaching in elementary and secondary schools, and practice-teaching under criticism, so far as conditions will permit. Class work with lectures, conferences, and observation. Four hours weekly throughout the year, counting as a two-hour course. Mrs. CHAMBERS

M. and F., 1.30-3.30, Lecture Room, Macy Building.

The aim of this course is to give the student ability to apply the subject-matter which he has acquired, and to prepare him for work in the classroom.

Open only to regular members of the graduating classes in this department. Required of fourth-year college students specializing in this department, and of second-year students who are candidates for the departmental diploma in art.

EXTENSION COURSES

1. Form and color study and drawing. Representation in outline; light and shade; water-color work in the grades. Sketching from plants, animals, and posed figure. Use of drawing in other studies, blackboard illustration and methods. Two hours weekly, October to March. Professor CHURCHILL and assistants

S. at 10, Freehand Drawing Room, Macy Building.

Registration and tuition fee, \$5.

This class is especially designed to meet the needs of teachers in the public schools of New York. The instruction given is that which will best assist them to do good work under supervision in the schools and enable them to make drawing a help in other studies.

2. Studio work. Advanced work in light and shade; still-life, antique, etc., according to advancement of pupil. Instruction adapted to individual. Two hours weekly, October to March. Professor CHURCHILL and assistants.

S. at 10, Studio No. 2, Macy Building.

Registration and tuition fee, \$5.

3. Clay modeling. Elementary form supply. Type-forms and simple objects, copying of good examples, etc. Applications of clay in other studies. Two hours weekly, October to March. Miss LEWIS and assistant.

S. at 10, Modeling Room, Macy Building.

Registration and tuition fee, \$5.

4. Wood-carving and design. Execution of design in carving, pyrography, leather work, etc. Similar to Art **11** and **12**. Studio work, elementary or advanced. Instruction adapted to the individual. Two hours weekly, October to March. Miss ROGERS

S. at 10, Wood-carving Room, Macy Building.

Registration and tuition fee, \$5.

In location and equipment the students of this department are offered advantages of an exceptional character. The City of New York, with the National Academy of Design, Art Students' League, and Metropolitan Museum of Art, is the art center of America. In every way students are encouraged to make use of these opportunities as a means of increasing their professional strength and general culture. The Department of Art occupies two floors of the Macy Building. There are large and beautiful rooms for lectures and the various classes in studio work, and several smaller rooms for private studios and departmental offices. The two studios for advanced work in drawing and painting, each about thirty-six by fifty feet, are furnished with pictures, casts, and sketches by great masters. The corridors are lined with photographs of the masterpieces of art, arranged in such a manner as to be available for class use.

The Bryson Library contains a valuable and constantly growing collection of books on general subjects, and a special collection of art works, photographs, engravings, and books of criticism. The Columbia Library is especially rich in material for students of art. Its Avery Architectural Library is one of the most complete collections in the world. The new site of the Academy of Design is also near by. The Metropolitan Art Museum is within easy reach. It is thus possible for the students of the College to come into direct contact with the historical and critical work of the world of art, and to see and study types of the greatest achievements in sculpture, painting, and architecture.

For courses of study in art see pages 90 and 91; for admission requirements see pages 73 and 74.

A special circular giving complete information of the opportunities for study in this department will be ready for distribution in May.

Biology

1. Botany. Seeds and their germination studied comparatively; the morphology of seed-plants, and general plant physiology and ecology, followed, during the second half-year, by the comparative study of types of cryptogams. Lectures, recitations, laboratory, and field-work, together with collateral reading. Four hours weekly throughout the year, counting as a two-hour course. Professor LLOYD

Tu. and Th., 1.30-3.30, Biological Laboratory, Milbank Building.

Open as elective to qualified students. Required of first-year students who are candidates for the college diploma in kindergarten and elementary teaching.

2. Zoölogy. The study of a series of types of animals, both invertebrate and vertebrate. Lectures, laboratory work, and collateral reading, with recitations. Four hours weekly throughout the year, counting as a two-hour course. Professor LLOYD and Miss CARSS

Tu. and Th., 10.45-12.30, Biological Laboratory, Milbank Building.

Open as elective to qualified students. Required of second-year students who are candidates for the college diploma in kindergarten and elementary teaching.

3. Physiology and hygiene. A study of the activities of cells, tissues, and organs in various organisms, both plants and animals, including man. The practical application of physiological principles to dress, ventilation, and sanitation in the school-room and in the home. Lectures, recitations, and laboratory work. Three hours weekly throughout the year, counting as a two-hour course. Professor WOODHULL, Professor LLOYD, and Miss CARSS

M. at 9.15, and W., 9.15-10.45, Physiological Laboratory, Main Building.

Open as elective to qualified students. Required of third-year students who are candidates for the college diploma in kindergarten and elementary teaching, and for first-year students, candidates for departmental diploma in domestic art or domestic science.

4. Bacteriology. A course of practical work in the cultivation, staining, and microscopic study of the yeasts and common bacteria occurring in foods, etc., in the household. One hour weekly during the first half-year, counting as a one-half hour course. Professor LLOYD

M. at 3.30, Science Rooms, Milbank Building.

Open as elective to students who have had elementary chemistry. Required of first-year students who are candidates for the departmental diploma in domestic science.

EDUCATION 12. Methods of teaching biology in elementary and secondary schools. Lectures, discussions, laboratory and field-work. Three hours weekly throughout the year, counting as a two-hour course. Professor LLOYD

Hours to be arranged, Biological Laboratory, Milbank Building.

Open as elective to properly qualified students. Required of fourth-year students who are candidates for the college diploma in biology.

BOTANY I. Elementary botany—general introduction. Principles of general biology; outlines of the evolution of the plant world; relation of plants and animals. Study of types of the lower plants during the first half-year, followed by an examination of representatives of the higher plants (Spermaphytes) during the second half-year; comparative study of a few of the

leading families. One lecture and two laboratory sessions per week. Professor UNDERWOOD and Dr. CURTIS

Open as elective to properly qualified students. Recommended to second-year students who are candidates for the college diploma in biology.

ZOOLOGY II. Elementary biology. Introductory to morphology and physiology, and to the general principles of biology.

First half-year

(a) General biology. Two exercises a week throughout the first quarter-year. General introduction. Protoplasm and the cell. Biology of the earth-worm and the fern. Unicellular organisms: Amoeba, pleurococcus, yeast, bacteria, infusoria. Spirogyra, hydra, hydroids. Professor WILSON

(b) Elementary zoölogy (invertebrates). Two exercises a week throughout the second quarter-year. The earth-worm, lobster, crab, insect, mussel, starfish, ascidian. Professor WILSON

Second half-year

(c) Elementary zoölogy (vertebrates). Two exercises a week. The lancelet, dogfish, frog, pigeon, turtle, and rabbit. In addition the main problems of evolution and heredity are briefly explained. Professor OSBORN

Textbooks: Sedgwick and Wilson, *General Biology*; Marshall and Hurst's *Practical Zoology*; Osborn's *Greeks to Darwin*. Reference books: Parker's *Elementary Biology*; Thomson's *Zoology*; Foster and Balfour's *Elements of Embryology*.

Open as elective to properly qualified students. Recommended to second-year students who are candidates for the college diploma in biology.

BOTANY II. Plant anatomy. A systematic study of the cells and tissues of the higher plants. Two laboratory sessions weekly, first half-year. Dr. CURTIS

Prerequisite: Botany I, or its equivalent.

BOTANY III. Plant physiology. A course in experimental

physiology supplemented by selected readings. Two laboratory sessions weekly, first half-year. Dr. CURTIS

Prerequisite: Botany I, or its equivalent.

NOTE.—In this and other courses in vegetable physiology, the nature of the work occasionally requires attendance at the laboratory at unusual times.

BOTANY IV. General morphology of cryptogams. Detailed study of some group or groups of the lower plants. Two laboratory sessions weekly, second half-year. Professor UNDERWOOD and Dr. CURTIS

This course naturally follows Botany II, to complete an elective for the year. Prerequisite: Botany I, or its equivalent.

BOTANY V. Botanical problems. Illustrating advanced methods of fixing, imbedding, sectioning, and staining. One laboratory session weekly, second half-year. Dr. CURTIS

Prerequisite: Botany II.

Open as elective to properly qualified students. Recommended to third-year students who are candidates for the college diploma in biology.

NOTE.—During the second half-year the student may choose between Botany III, IV, and V.

ZOÖLOGY III. General zoölogy. Vertebrate and invertebrate zoölogy, anatomy, embryology, and ætiology (natural environment, terrestrial and marine faunal areas, principles of distribution). Three lectures and six hours' laboratory work weekly throughout the year.

(a) Classification and comparative anatomy of the main living orders of fishes, amphibians, reptiles, birds, and mammals. Practical study of the nervous, vascular, alimentary systems, and the like. Professor DEAN

(b) Embryological development of the bird, amphibian, fish, embryological technique. Professor DEAN

(c) Comparative morphology, classification, and general zoölogy of invertebrates. Mr. CALKINS

Textbooks: Wiedersheim's *Comparative Anatomy*; Parker's *Zootomy*; Hertwig's *Zoology*.

Open as elective to properly qualified students. Recommended to third-year students who are candidates for the college diploma in biology.

EXTENSION COURSE

I. Nature study. A special treatment of biology applicable to the elementary grades. Lectures and demonstrations. Ten weeks. Professor LLOYD

S. at 10.30, Science Lecture Room, Main Building, beginning January 7.

Registration fee, \$1.

The biological laboratory is equipped with a sufficient number of Bausch and Lomb and Leitz microscopes, a microtome after Tome, a paraffine-oven, and other accessory apparatus. A small conservatory in the laboratory makes it easy to preserve plant material in growing condition for study. Several aquaria serve a like purpose for animals. A good set of museum preparations and skeletons afford illustrative materials. The collection of lantern slides is rapidly increasing.

The department library has a goodly number of reference books. The reading-table is kept supplied with the periodicals of general scientific interest, and with several of the more special journals on Zoölogy, Botany, and Physiology. The department possesses also a set of the folios of Audubon, embracing his studies of the birds and mammals of North America.

New York City offers many attractions to students in Biology, the chief of these being the American Museum of Natural History, the Aquarium, and the New York Botanical Garden. The latter is growing rapidly in value from year to year, and even now offers exceptional advantages for the study of a large number of plants within a small area. Equal advantages will, it is hoped, soon be offered for the study of animals in the New York Zoölogical Garden.

For courses in geography and geology, see pages 36-39.

For courses in physical science, see pages 60-62.

Domestic Art

I. Sewing methods. The consideration of courses of sewing for elementary and mission schools; methods of teaching the subject in accordance with general educational principles; preparation of a series of models for school work. Lectures,

discussions, and manual work. Textbook: Woolman's *Sewing Course*. Two hours weekly throughout the year. Professor WOOLMAN

Tu., 1.30-3.30, Domestic Art Laboratory, Milbank Building.

Open to qualified students. Required of all first-year students who are candidates for the departmental diploma in domestic art. One hour weekly during the first half-year is arranged for the special benefit of intending teachers in the lower elementary school.

2. Textiles. A study of fabrics and the processes of their manufacture. The development of these processes and their effect on social conditions. Lectures, discussions, and essays. Two hours weekly throughout the year. Professor WOOLMAN

Tu. and Th. at 10, Domestic Art Laboratory, Milbank Building.

This course is complementary to Course 1, and is intended to give a knowledge of textiles and the methods of presentation in connection with the lessons in sewing.

Open to qualified students. Required of all first-year students who are candidates for the departmental diploma in domestic art. One hour weekly throughout the year is recommended to intending teachers in the kindergarten.

3. Drafting and making garments. The principles of dress-making; the taking of accurate measurements; drafting by simple measurements; economical cutting of material; the making of garments. Demonstration, conference, manual work, and written notes. Three hours weekly throughout the year. Miss SCHENCK

W., 1.30-4.30, Domestic Art Drafting Room, Milbank Building.

Open to qualified students. Required of all first-year students who are candidates for the departmental diploma in domestic art.

4. Equipment and management of schools. Methods of teaching; organization and equipment of domestic art departments in public and industrial schools; plans of courses; designing of rooms; system of drafting, etc. Conferences, essays, private investigation of schools and missions, and class work. Two hours weekly throughout the year. Professor WOOLMAN and Miss SCHENCK

M. and W. at 2.30, Domestic Art Laboratory, Milbank Building.

Open to students who have completed Courses 1, 2, and 3. Required of second-year students who are candidates for the departmental diploma in domestic art.

5. Household art and design. A consideration of healthful living and dressing; the effects of textiles; principles of home decoration, and training in rapid sketching. Lectures, discussions, and class work. Two hours weekly throughout the year. Professor WOOLMAN

Hours to be arranged, Domestic Art Laboratory, Milbank Building.

This course is complementary to Art 9 and 13, and aims to apply general rules of art in the home, in order to develop good taste and appreciation of beauty in every-day life.

Open to students who have completed Courses 1, 2, and 3, and are taking Art 9 and 13. Required of second-year students who are candidates for the departmental diploma in domestic art.

6. Art needlework. Some of the principles of decoration with the needle, and their application to articles for home and ceremonial use. Class work. Two hours weekly during the first half-year. Miss PENISTON

W., 9.15-11.30, Domestic Art Laboratory, Milbank Building.

Open as elective to students who have completed Courses 1, 2, and 3.

7. Conference. Systematic study of problems in domestic art for elementary, industrial, and mission schools. One hour weekly throughout the year. Professor WOOLMAN

Hours to be arranged, Domestic Art Laboratory, Milbank Building.

Open to graduates and other specially qualified students.

EXTENSION COURSES

1. Sewing. Practical work in sewing and garment making, for those who desire to meet more intelligently the demands of the home. Some knowledge of sewing will be necessary to

gain admission to the course. Demonstration and class work. One session weekly throughout the year. Miss ANTHONY and Miss REA

Hours to be arranged, Domestic Art Laboratory, Milbank Building.

Registration and tuition fee, \$25. If fewer than ten applications are received, this course will not be given.

2. Sewing methods. Teaching in accordance with general educational principles. Lectures, discussions, demonstrations, and manual work. One hour weekly. Professor WOOLMAN and Miss ANTHONY

S. at 10.30; October 8 to December 17.

Open to teachers of public, private, and mission schools. Registration and tuition fee, \$5.

3. Drafting and making garments. The principles underlying garment making; the presentation of the subject in public and mission schools; drafting by simple measurement; cutting, fitting, and finishing garments. Some knowledge of sewing is required for entrance. Class demonstration, manual work, and written notes. Two hours weekly, January to June. Miss SCHENCK

Hours to be arranged; Domestic Art Drafting Room.

Open to teachers of public, private, and mission schools. If fewer than ten applications are received, this course will not be given. Registration and tuition fee, \$10.

The Department of Domestic Art is situated on the fourth floor of the Milbank Memorial Building. It consists of a laboratory, drafting room, office, and stockroom. It is amply lighted and equipped with all needed apparatus.

A large collection of fibers and instruments used in textile manufacture, given by various manufacturers, affords to the student important assistance in the study of textiles. A Navajo loom, with half completed blanket and all the processes of wool spinning and dyeing used in the construction, has been presented by Mr. B. Talbot B. Hyde. A rapidly increasing collection of garments, embroideries, and needlework of various nations, photographs, samples of materials, etc., are

available for research work. The chemical laboratory of Columbia University offers opportunity for studying dyeing and calico printing.

The museums, technical institutions, public schools, sewing missions, and settlements of New York City offer special advantages in bringing students into direct contact with art, industry, and education.

For courses of study in domestic art, see pages 89 and 91; for admission requirements, see pages 72 and 73.

Domestic Science

1. Foods. Composition and nutritive value of foods; fundamental principles and processes of cookery; comparative study of fuels and cooking apparatus. Lectures, laboratory work, essays, and collateral reading. One lecture and six hours' laboratory work weekly throughout the year, counting as a four-hour course. Professor KINNE

M. at 10, and Tu. and Th., 1.30-4.30, Domestic Science Laboratory, Milbank Building.

This course gives theory and practice in cooking, and aids the student in arranging subject-matter for teaching. Especial attention is given to scientific methods of laboratory work, and to the adaptation of such methods to the school kitchen.

Open as elective to qualified students. Required of third-year students who are candidates for the college diploma, and of first-year students, candidates for the departmental diploma in domestic science.

2. Food production and manufacture. Production of food materials, such as dairy products; manufacture of flours, cereals, spices, etc.; food adulterations; marketing, etc. Lectures, laboratory work, reading, excursions. One lecture and four hours' laboratory work weekly throughout the year, counting as a three-hour course. Professor KINNE and Miss MCINTYRE

M. at 1.30, and F., 9.15-10.45, Domestic Science Laboratory, Milbank Building.

This course is complementary to Course 1.

Open as elective to qualified students. Required of third-year students who are candidates for the college diploma, and of first-year students who are candidates for the departmental diploma in domestic science.

3. Foods, advanced course. Advanced cookery; preservation of foods; cookery for invalids; food values and dietaries; cooking, planning, and serving meals; waitress' course. One lecture and six hours' laboratory work weekly throughout the year, counting as a four-hour course. Professor KINNE

M. at 9.15, Tu. and Th., 1.30-4.30, Domestic Science Laboratory, Milbank Building.

This course elaborates and applies the principles established in Course 1.

Open to students who have completed Courses 1 and 2. Required of all candidates for the departmental diploma in domestic science.

4. Home sanitation and management. Situation and structure of the house; disposal of waste; heating and ventilation; lighting; healthful furnishings; systematic methods of housework; the principles of laundering; keeping of household accounts, etc.; home nursing and emergencies. Conferences, lectures, laboratory work, and collateral reading. One lecture and two hours' laboratory work weekly throughout the year, counting as a two-hour course. Professor KINNE

W., 9.15-11.30, and F., 10.45-11.30, Domestic Science Laboratory, Milbank Building.

Open as elective to qualified students. Required of fourth-year students who are candidates for the college diploma, and of second-year students, candidates for the departmental diploma in domestic science.

5. Methods of teaching domestic science. Planning of courses, lesson plans, class management, observation of class work, practice in giving demonstration lessons, equipment for classes of all grades, etc.; special instruction of students intending to be supervisors or head teachers in departments of domestic science. Conferences and lectures. Two hours weekly throughout the year. Professor KINNE

W. and F., 1.30-2.30, Domestic Science Laboratory, Milbank Building.

Required of third-year students who are candidates for the college diploma, and of first-year students, candidates for the departmental diploma in domestic science.

EXTENSION COURSES

1. Cooking. This course is intended for those who wish a scientific and practical knowledge of food, and the principles underlying its preparation, and consists of a study of foods, their composition, nutritive value, and proper combination, cost of food and marketing; practice of the art of cookery, including all its processes. A course of reading is suggested in connection with the various topics. Three hours weekly, October to April. Professor KINNE

Th., 9.30-11.30, Domestic Science Laboratory, Milbank Building.

Registration and tuition fee, \$35.

2. Methods of teaching cooking. Lectures on methods of teaching cooking, including a consideration of such topics as laboratory equipments, class management, arrangement of courses for public schools and industrial classes, etc. The lectures are illustrated by experiments. The aim of the course is to give helpful suggestions to teachers and to those interested in industrial classes connected with churches and college settlements. Two hours weekly, January 8 to March 12. Professor KINNE

Hours to be arranged, Domestic Science Laboratory, Milbank Building.

Registration and tuition fee, \$5.

3. The chemistry of foods and stimulants. One lecture and two hours laboratory work throughout the year, same as Physical Science 3.

W. at 4.30 and Tu. at 10.30-12.30.

A limited number of special students will be admitted to this course. Some previous knowledge of chemistry is desirable, but it is not a necessary prerequisite. Registration and tuition fee, \$30.

The purpose of the courses in domestic science is to train teachers of cooking and home sanitation for public schools, manual training and industrial schools, and to equip directors of departments as supervisors of domestic science.

The domestic science laboratory is situated on the fourth floor of the Milbank Memorial Building. It is arranged for work that can be carried on in any school kitchen. For all purposes of investigation and experimental work the resources of the department are amply sufficient. Special attention is given to the practical needs of the common schools. The various departments of Columbia University are open for scientific and sociological study to teachers who desire advanced work in domestic science. Students especially interested in social settlement and philanthropic work will find in New York a profitable field for investigation and observation of modern methods of social amelioration. Any student who desires it can be brought directly into contact with such work.

For courses of study in domestic science, see pages 89 and 92; for admission requirements, see pages 72 and 73.

Economics and Social Science

POLITICAL ECONOMY A. Principles of political economy. Recitations and essays. Three hours, second half-year, counting as a one and one-half hour course. Professor MAYO-SMITH and Mr. DAY

Open as elective to properly qualified students. Required of all candidates for the A.B. degree and the college diploma in secondary teaching.

POLITICAL ECONOMY I. Economic history. Selected textbooks, recitations, essays, and lectures. Three hours, first half-year, counting as a one and one-half hour course. Professor SELIGMAN and Mr. DAY

Open as elective to properly qualified students.

POLITICAL ECONOMY III. Historical and practical political economy. Production and consumption; the problems of exchange; the problems of distribution. Lectures, discussions, and reading. Three hours weekly throughout the year. Professor MAYO-SMITH

Open as elective to properly qualified students.

SOCIOLOGY XX. General sociology. Analysis and classification of social facts; systematic principles of social theory; examination of sociological laws—the causes of emotional

epidemics, panics, outbreaks of mob violence, and revolutions; the growth of public opinion on great questions. Two hours weekly, first half-year. Professor GIDDINGS

Open as elective to properly qualified students.

SOCIOLOGY XXI. Progress and democracy. The phenomena of social progress are the general subjects of this course, which includes two parts, namely: (1) a study of the historical evolution of society, with special attention to social origins; to the development of the family, of the clan, and of the tribe; and to the beginnings of civilization; (2) the social as distinguished from the political organization of modern democracies. Modern philanthropic movements, including the work of university and other social settlements, and many social phases of municipal reform are touched upon in this course. Two hours weekly, second term. Professor GIDDINGS

Open as elective to properly qualified students.

English

I. Literature and composition. Interpretative and critical study of literature: stories and comedies; rhetorical analysis. Lectures, recitations, and weekly themes. Hawthorne's *Twice Told Tales*, George Eliot's *Scenes from Clerical Life*, Shakespeare's *As You Like It* and *Twelfth Night*, Genung's *Practical Elements of Rhetoric* and *Rhetorical Analysis*, Pearson's *Freshman Composition*. Three hours weekly throughout the year. Mr. KRAPP

M., W., and F. at 9.15, English Lecture Room, Milbank Building.

The aim of this course is to lay a foundation for the teaching of English in elementary schools and to supply a part of the training necessary for the professional studies of the later years of the college course.

Open as elective to qualified students. Required of first-year students who are candidates for the college diploma.

2. Literature and analysis. Interpretative and critical study of literature; logical analysis of essays. A study of tragedy, and of modern English poetry. Shakspeare's *Hamlet* and *Macbeth*; the poetry of Wordsworth, Tennyson, or Browning; Bradley's *Orations and Arguments*. Lectures, recitations, conferences, and private readings; weekly themes. Three hours weekly throughout the year. Mr. KRAPP

M., W., and F. at 10, English Lecture Room, Milbank Building.

Open as elective to students who have completed Course 1, or its equivalent. Required of second-year students who are candidates for the college diploma.

3. The folk-story. Lectures and readings. Two hours weekly during the second half-year. Mr. KRAPP

W. and F. at 10.45, English Lecture Room, Milbank Building.

The purpose of the course is to open up to the general reader the vast storehouse of popular narrative literature. The method will be to take up in order typical collections from the literatures of different periods and peoples, beginning with the collections of the East and coming down through the Western literature of fable, fairy tale, myth, and popular romance.

Open to auditors and special students. Required of second-year students who are candidates for the college diploma in kindergarten teaching.

4. Reading. Training in enunciation and the use of the voice; study and practice in emphasis, phrasing, etc.; readings from Shakspeare and Browning. One hour weekly throughout the year. Miss BENFEY

M. at 10.45, English Lecture Room, Milbank Building.

Open as elective to qualified students.

5. SEMINAR. Investigation of the conditions of English teaching. Readings, theses, investigation of English work in secondary schools, with critical analysis from the standpoint of subject-matter and method. Lectures, essays, and discussions. One session weekly. Professor BAKER

Hour to be arranged; English Lecture Room, Milbank Building.

Open to graduates and properly qualified seniors.

EDUCATION 13. Methods of teaching English in secondary schools. (a) Literature—first half-year: interpretative and critical study of typical stories, poems, essays, and dramas; principles of selection and presentation of literature in secondary schools; aims and methods of teaching literature. (b) Composition—second half-year: the study of typical forms of prose with reference to their use in teaching composition; principles and methods of teaching rhetoric and composition in secondary schools. Especial attention will be given to the college entrance requirements. The work will be based in part on Scott and Denney's *Composition-Rhetoric* and Pearson's *Principles of Composition*. Lectures, readings, written work, observation, and practice-teaching. Three hours weekly throughout the year, counting as a two-hour course. Professor BAKER

Hours to be arranged, English Lecture Room, Milbank Building.

Open to seniors and graduates. Required of students who are candidates for the college diploma in English.

EDUCATION 14. Methods of teaching English in elementary schools. (a) A study of typical stories, essays, and poems; principles of interpretation and criticism; principles of selection, adaptation, and presentation of literature in the elementary schools; the study of interest, attention, and correlation. (b) Language teaching: aims, scope, and methods of the work of reading, composition, and grammar. Observation, lesson-plans and practice-teaching. Lectures, recitations, and private readings. Laurie's *Language and Linguistic Method* will be used as a textbook. Three hours weekly during the first half-year. Professor BAKER

M., W., and F. at 1.30, English Lecture Room, Milbank Building.

Open as elective to students who have completed Courses 1 and 2. Required of all candidates for the college diploma in elementary teaching.

EXTENSION COURSES

1. English literature. The story, Hawthorne, George Eliot, or Kipling; a comedy of Shakspeare; a tragedy of Shakspeare, *Hamlet*, *Macbeth*, or *King Lear*; poetry, Wordsworth, Tennyson, or Matthew Arnold. Three hours weekly throughout the year. Mr. KRAPP and Professor BAKER

This course is especially designed for those who are not regular students, and who desire to study literature rather than composition.

Open to auditors and special students. Registration and tuition fee, \$30.

2. English literature. This course is intended especially for those who are engaged in work during the week. It will include work in interpretative criticism and discussion of method. The work in method will be kept in the closest possible relation with the study of the literature. The literature selected is: Addison's *Sir Roger de Coverley Papers*, Dryden's *Palamon and Arcite*, and Shakspeare's *The Winter's Tale*. Professor BAKER

S. at 10.30, October 8 to December 17.

Open to special students. Registration and tuition fee, \$5.

The English Department offers also, as part of the required work, courses of observation and practice under direction and criticism, in the Horace Mann School. These courses are open only to properly qualified students, who have satisfied their instructors that they may do such work with profit to themselves and without injury to the school. The range of work open to such students is from the primary grades to the end of the college preparatory course. It includes reading, language-work, and composition, and the study of literature. So far as it is possible, the children read only what is ranked as classic literature. The work is interpretative and appreciative throughout the course. It aims to develop the power of reading intelligently, a discriminative fondness for good literature, the power to write English with clearness and ease, and, in the later years of the course, the beginnings of the elements of criticism.

Opportunities for further preparation for the teaching of English are open to all properly qualified students of Teachers College. Those who desire may, under the general regulations of Columbia University, elect courses there in general literature, in the historical study of the

English language, and in rhetoric and composition. For a descriptive list of these courses see the catalogue of Columbia University, or the special circular of the Department of Philosophy.

Geography and Geology

1. Elementary meteorology and oceanography. An elementary study of the atmosphere, as to temperature, pressure and circulation, moisture, cyclonic and local storms, rainfall, weather and climate; and of the ocean, as to waves, tides, ocean currents, and deep-sea conditions. The needs of the common school will be kept in mind continually. Lectures and laboratory work. Three hours weekly during the second half-year. Professor DODGE

M., W., and F. at 1.30, Geographical Laboratory, Main Building.

Open as elective to all college students. Required of candidates for the college diploma in kindergarten and elementary (lower) teaching.

2. Elementary physiography. An elementary course in the origin, development, and classification of land forms, with a detailed study of the common types and their relation to human conditions. As much geology and mineralogy will be included as the end in view demands. Lectures and laboratory work. Three hours weekly during the first half-year. Professor DODGE

M. and W. at 2.30, and F., 2.30-4.30, Geographical Laboratory, Main Building.

Open as elective to all college students and to sophomores, juniors, and seniors in Columbia College. Required of candidates for the college diploma in elementary teaching, and in secondary teaching in geography. Prerequisite to Courses 3, 4, 5, and 7.

3. Geography of the United States. Consideration in detail of the origin and classification of the physical features of the United States, with a study of the social, economic, and historical relations of man thereto. Lectures and laboratory work. Three hours weekly during the second-half-year. Professor DODGE

M. and W. at 2.30, and F., 2.30-4.30, Geographical Laboratory, Main Building.

Open as elective to all college students, and to sophomores, juniors, and seniors in Columbia College, who have completed Course 2, or its equivalent. Required of candidates for the college diploma in elementary (upper) teaching, and in secondary teaching in geography.

Given in 1898-99 and each alternate year thereafter.

4. Geography of Europe. Detailed consideration of the origin and classification of the physical features of Europe, with a study of the social, economic, and historical relations of man thereto. Lectures and laboratory work. Three hours weekly during the second half-year. Professor DODGE

M. and W. at 2.30, and F., 2.30-4.30, Geographical Laboratory, Main Building.

Open as elective to all qualified students who have completed Course 2, or its equivalent. Required of candidates for the college diploma in elementary (upper) teaching and in secondary teaching in geography, if they have not taken Course 3.

Not given in 1898-99, but in each alternate year thereafter.

5. Commercial geography. A consideration of the commercial relations of the United States and the world; the economic conditions of the various continents; lines of commerce, exploration, etc., and causes thereof. Lectures and collateral reading. Three hours weekly during the first half-year. Professor DODGE

Open as elective to students who have completed Course 2, or its equivalent.

Not given in 1898-99.

6. Mathematical geography. A study of the earth, as a member of the solar system, its form, size, mass, and density, and its rotation; method of determining latitude and longitude, calculation of time and of local meridian; terrestrial magnetism, reading of mariner's compass and charts; map projections and cartography. Lectures and laboratory work. Three hours weekly during the second half-year. Professor DODGE

Open as elective to qualified students.

Not given in 1898-99.

7. SEMINAR. Original investigations of problems in the teaching of geography in the elementary and secondary schools. Conferences, with outside reading and laboratory work. One session weekly. Professor DODGE

Hour to be arranged, Geographical Laboratory, Main Building.

Open to graduates and other qualified students.

EDUCATION 16. Methods of teaching geography and geology. Geography and geology for elementary and secondary schools, with preparation for practice-teaching, observation, and criticism. Lectures, discussions, laboratory work, and collateral reading. Three hours weekly throughout the year, counting as a two-hour course. Professor DODGE

Hours to be arranged, Geographical Laboratory, Main Building.

Open as elective to properly qualified students. Required of candidates for the college diploma in secondary teaching in geography and geology.

GEOLOGY I. General geology. First half-year, physical geology, with practical work in the rock collections under the lithological part of the subject; second half-year, stratigraphical and historical geology, involving laboratory work with type fossils and collections illustrating the geology of the United States. Textbook: Le Conte's *Elements of Geology*. Two hours lectures, including laboratory work. Mr. HOLLICK
Tu. and Th. at 1.30, Schermerhorn Hall.

Open as elective to properly qualified students.

GEOLOGY II. General geology. A more elaborate discussion of the subjects treated in Course I. Textbooks: Scott's *Introduction to Geology*, Kemp's *Handbook of Rocks*. Three hours' lectures. Professor KEMP

M., W., and F. at 1.30, Schermerhorn Hall.

Open as elective to properly qualified students.

EXTENSION COURSE

1. Lectures, demonstrations, and exercises, with practical suggestions as to methods of teaching the following topics: Rotation and revolution of the earth; winds and wind systems; oceans and ocean currents; waves and tides; latitude, map projections, etc. One hour weekly, October 8 to December 17.

Professor DODGE

S. at 10.30, Science Lecture Room, Main Building.

Registration fee, \$1.

The geographical laboratory is well equipped with maps, models, lantern slides, specimens, etc., illustrating the geographical conditions of the United States in detail, and other countries in general. In the near future the equipment will be amplified in reference to meteorology and oceanography and the geography of Europe. Particular attention has been given in the selection of materials, to maps, etc., available at small cost for use in the common schools.

The Professor of Geography is also Editor of the *Journal of School Geography*, a monthly journal devoted to the interests of teachers of geography in the elementary school. The large and rapidly increasing list of pedagogic and geographic exchanges from all parts of the world is at the service of all students, and forms a valuable working library. Students have access also to the library of Columbia University, and by special permission can work in the library of the American Geographical Society. This latter library is one of the best geographical libraries in the world.

New York City is a center of great geographic interest from the commercial, historical, and scientific standpoints. Much use will be made of the local field for illustration and study.

Further information regarding the work in Geography may be found in the Circular of the Department of Science, which will be sent on application.

For courses in biology, see pages 20-24; and in physical science, pages 60-62.

Greek

EDUCATION 18. Methods of teaching Greek in secondary schools. A comparative study of grammar, rhetoric, literature, history, art, and archæology, so far as these bear upon the

teaching of Greek in secondary schools; a consideration of forms, syntax, reading, writing, scanning, textbooks, bibliographies, and the choice of authors from the viewpoint of the teacher. Lectures, essays, discussions, reports of observation, and practice-teaching. Three hours weekly during the year, counting as a two-hour course. Miss COCHRAN, with the co-operation of Professor PERRY, Professor WHEELER, and Dr. YOUNG

Hours to be arranged.

Required of seniors who are candidates for the college diploma in Greek. Greek I, III, V, and VII are recommended in preparation for admission to this course.

History

I. Development of mediæval and modern civilization. A brief review of the nature and characteristics of Grecian and Roman civilization; a similar study of Teutonic civilization, and a careful comparison of the two; the fusion of the two civilizations in the Empire and feudalism; the contest between Empire and Papacy, and the later development of each; the growth of the nationalities of France, Italy, and England. Such general topics as the Crusades, the Renaissance, etc., are first treated in their relation to the several nations and then reviewed as single movements. Textbook: Thatcher and Schwill's *Europe in the Middle Age*. Recitations, occasional lectures, conferences, essays, and reference work. Three hours weekly throughout the year. Dr. MONROE and Professor CASTLE

M., W., and F. at 10.45, History Lecture Room, Milbank Building.

The purpose of the course is to trace the development of European civilization in sufficient detail to serve as a basis for the History of Education, and to aid in correctly understanding the general nature, meaning, chief characteristics, causes, and results of the various stages in such development.

Open as elective to qualified students. Required of first-year students who are candidates for the college diploma. This course, or its equivalent, is prerequisite to Education **1** and History **2**.

2. History of the United States. A study of the colonies of Virginia, New York, and Massachusetts, to show the nature of southern, middle, and northern colonial life and institutions; the struggle between the French and English for control of the continent; the contest of the colonists with the mother country for the rights of Englishmen, and later for the rights of man; the attempt to establish a government based upon states' rights, and, when this failed, upon nationality; and the growth of political parties, the nationalization of democracy, the westward expansion of the nation, the slavery controversy, and the reconstruction of the nation. Textbooks: Thwaites, *The Colonies*; Sloane, *French War and the Revolution*; Walker, *The Making of the Nation*; Burgess, *The Middle Period*, and *The Civil War and Reconstruction*. Recitations, occasional lectures, and essays. Three hours weekly. Dr. MONROE

M., W., and F. at 11.30, History Lecture Room, Milbank Building.

This course is a continuation of Course 1. United States history is studied as a continuation of English civilization upon this side of the Atlantic. Only the most important and the determining events of American history will be treated, with a view to showing the various phases through which American nationality has passed.

Open as elective to qualified students. Required of second-year students who are candidates for the college diploma. This course or its equivalent is prerequisite to History 3 and 4.

3. Investigation of historical topics. Subject for 1898-99: The administrations of Washington and Jackson. Conferences, lectures, reports, and reference work. Two hours weekly, first half-year. Professor CASTLE

Tu. and Th. at 10.45, History Lecture Room, Milbank Building.

It is the purpose of the course to give a knowledge of the various sources of history, the methods of using such sources, the correct interpretation of historical material, a keen appreciation of historic truth and accuracy, and a clear perception of the relations of cause and effect. The proper use of bibliographies, original and "second-hand" sources, and the interpretation of historic fact, will be shown.

Open as elective to qualified students. Prerequisite to Education 20.

4. Industrial evolution of society. A study of the growth of industrial organizations. Primitive and ancient industrial life; the manor and guild systems; the mediæval system and its overthrow; the household system; the factory system; the political, social, and economic influences of various typical industries in the United States. Lectures and reference work. One hour weekly during the second half-year. Professor CASTLE and Dr. MONROE

M. at 3.30, History Lecture Room, Milbank Building.

Open as elective to qualified students. Required of third-year students who are candidates for the college diploma in domestic art or domestic science, and of first-year students who are candidates for a departmental diploma in domestic art or domestic science.

5. Social reform movements. Fundamental theories underlying social reform movement; detailed study of typical reform movements,—*e.g.*, congestion of population in cities, housing of the poor, conflict of labor and capital, the unemployed, the employment of women and children in industries, the wage-system, consumption as dealt with by the Consumers' League, the class problem as dealt with by the social settlement and the institutional church and charities. Lectures, reference, and field work. One hour weekly, first half-year. Dr. MONROE

M. at 3.30, History Lecture Room, Milbank Building.

The purpose of the course is to furnish accurate information concerning some more or less abnormal social conditions, to give acquaintance with some of the efforts to remove such abnormalities, together with the scientific basis for these efforts, to point out the social import of many educational ideas, and to give acquaintance with the literature of the various subjects treated.

Open as elective to qualified students. Required of first-year students who are candidates for the departmental diploma in domestic art.

6. SEMINAR. Investigation in methods of teaching history. The subject for the coming year will be the teaching of Grecian and Roman history in secondary and elementary schools. Conferences, observations, and practice work. One session weekly. Professor CASTLE

Hour to be arranged, History Office, Milbank Building.

Open to graduates, seniors, and properly qualified teachers.

EDUCATION 19. Methods of teaching history in secondary schools. Investigation of historical topics to show use of material by the teacher—subject for 1898-99, the Confederation and the administration of Jefferson; methods of presenting subject-matter to classes; observation and practice work in Horace Mann School; observation and reports upon history work in some of the city schools. Three hours weekly throughout the year, counting as a two-hour course. Professor CASTLE

Hours to be arranged, History Lecture Room, Milbank Building.

Open as elective to qualified students. Required of fourth-year students who are candidates for the college diploma in history.

EDUCATION 20. Methods of teaching history in elementary schools. Lectures on the educational value of history, its place in the curriculum, and the methods of teaching it applicable to the different grades; observation and criticism of model lessons; evaluation of textbooks and courses of study; preparation of lesson-plans and practice-teaching when it can be conducted without injury to the classes taught. Lectures, conferences, reference work, observation, and practice-teaching. One hour weekly, first half-year; an additional hour for observation to be arranged for. Professor CASTLE and Dr. MONROE

W. at 2.30, History Lecture Room, Milbank Building.

Open as elective to qualified students.

EXTENSION COURSES

1. Development of mediæval and modern civilization. Similar in scope to History 1. Three hours weekly throughout the year. Dr. MONROE and Professor CASTLE

Hours to be arranged, History Lecture Room, Milbank Building.

Open to auditors and special students.

Registration and tuition fee, \$30.

2. History of the United States. Similar in scope to History 2. Brief review of chief epochs of United States history presented from teacher's point of view; methods of teaching em-

phasized. One hour weekly, first half-year. Professor CASTLE

S. at 11.30, History Lecture Room, Milbank Building.

Open to teachers of history and special students who have a working knowledge of United States history.

Registration fee, \$1.

The courses in history are designed to impart knowledge of historic fact, methods of independent investigation and interpretation, and special training in the direct presentation to classes of such historic material as may be successfully used in elementary and secondary schools. So far as possible, the subject-matter will be given in the Columbia University history courses, the special methods in Teachers College.

Advanced courses, open to graduates and specially qualified students, afford opportunities for the investigation of the peculiar problems and fundamental principles underlying the teaching of history in elementary and secondary schools. This work will include actual teaching in the Horace Mann School; observation in some of the city schools; gathering of data concerning history work in this and foreign countries; and a close study of some one historic period with a view to determining the best possible method of presenting this subject to various classes of students.

Students have the use of Columbia University library. The Hemenway collection of American history contains all of the standard authors, the best state histories, and many original sources.

Kindergarten

I. Gifts and occupations. Froebel's Gifts I to VII, inclusive, studied both practically and theoretically; Froebel's Occupations; application of the kindergarten work, such as basket-making, etc. Textbooks: For gifts, Froebel's *Pedagogics of the Kindergarten*, and for occupations, Kraus's *Kindergarten Guide*. Conferences and practical work, lectures, essays, and collateral reading. Three hours weekly throughout the year—gifts, one hour, Miss FRENCH,—and occupations, two hours, Miss WIL-LARD

M., W., and F. at 1.30, Kindergarten Rooms, Main Building.

This course is intended to give technical mastery of the kindergarten materials, as well as an insight into their educational value and place in Froebel's scheme.

Required of candidates for the college diploma in kindergarten teaching.

2. Songs and games. Froebel's *Mother-Play and Nursery Songs*, both the songs written for children and the commentaries for mothers. Time is given to practice and to the study of Froebel's explanations as given in Blow's translations of the *Mottoes and Commentaries*. Supplementary games and songs carrying out the Froebelian idea. Three hours weekly throughout the year, counting as a two-hour course; two periods *Mother-Play*, Professor RUNYAN; one period practice in playing, Miss FRENCH and Miss SUTHERLAND

M., W., and F. at 2.30, Kindergarten Rooms, Main Building.

The aim of this course is to give an understanding of the meaning of the Froebel games and through them a knowledge of his interpretation of child nature; also a familiarity with and skill in using the games and songs of the kindergarten.

Open as elective to qualified students in the elementary course. Required of third-year students who are candidates for the college diploma in kindergarten teaching.

3. Stories. A general survey of appropriate literature for little children, mainly folk and fairy tales, history stories, nature stories, fables, and poems; their classification for practical purposes; story-telling under criticism. Conferences, readings, and practice. One hour weekly during the first half-year; two hours, second half-year. Professor RUNYAN

Tu. (and Th.) at 9.15, Kindergarten Lecture Room, Main Building.

Open as elective to elementary students who have completed English
3. Required of third-year students who are candidates for the college diploma in kindergarten teaching.

4. Kindergarten principles. Study of Froebel's *Education of Man*, supplemented by Blow's *Symbolic Education*. Discus-

sions, collateral reading, and occasional essays. Two hours weekly during the second half-year. Professor RUNYAN

Tu. and Th. at 11.30, Kindergarten Lecture Room, Main Building.

This course presupposes Course 2, and its purpose is to give a clear idea of the aims and principles underlying Froebel's system, with illustrations and applications from the practical work.

Required of fourth-year students who are candidates for the college diploma in kindergarten teaching.

5. Program and gift work. Discussions of practical plans for the kindergarten; the relations of the gifts to the other parts of the work; the presentation and criticism of original exercises with the gifts, and the preparation of outlines of weekly programs. Two hours weekly throughout the year. Professor RUNYAN and Miss FRENCH

W. and F. at 1.30, Kindergarten Lecture Room, Main Building.

The aim of the course is to prepare students for their practice-work and equip them thoroughly for the management and conduct of their own kindergartens. It presupposes Course 1.

Required of fourth-year students who are candidates for the college diploma in kindergarten teaching.

6. Games. Discussion of the value of play as a factor in education; a critical study of the games in their relation to race-games; traditional plays of children; practice in playing and originating games for the kindergarten. Conferences and discussions. Two hours weekly during the first half-year. Professor RUNYAN

Tu. and Th. at 1.30, Kindergarten Lecture Room, Main Building.

Open to students who have completed Course 2. Required of fourth-year students who are candidates for the college diploma in kindergarten teaching.

7. Kindergarten methods. A general survey of the various phases of the work in the kindergarten, especially gifts, occupations, games, and stories. Lectures, brief written reports,

and observation in the kindergarten. One hour weekly during the second half-year. Miss FRENCH

F. at 2.30, Kindergarten Rooms, Main Building.

The special purpose of this course is to show the relation between the kindergarten and the later work of the school.

Open as elective to all fourth-year students. Required of candidates for the college diploma in (lower) elementary teaching.

8. SEMINAR. Original investigation of educational problems connected with kindergarten theory and practice. One session weekly throughout the year. Professor RUNYAN

Hour to be arranged, Kindergarten Lecture Room, Main Building.

Open to graduates and other specially qualified students.

9. Observation and practice in teaching. Special study of problems in kindergarten teaching; planning of work; teaching under criticism. First half-year, four hours weekly; second half-year, twelve hours weekly, counting as a four-hour course. Professor RUNYAN, Miss FRENCH, Miss WILLARD, and Miss SUTHERLAND

Hours to be arranged to meet the convenience of students.

Required of fourth-year students who are candidates for the college diploma in kindergarten teaching.

EXTENSION COURSE

1. Mothers' meetings. A study of the principles and methods of the kindergarten, showing the relation of the kindergarten to the home. Lectures, followed by discussion. One hour weekly, first half-year. Professor RUNYAN

W. at 10.45, Kindergarten Lecture Room, Main Building.

Registration and tuition fee, \$3.00. Mothers of children in Horace Mann School are admitted free of charge.

A kindergarten for children from three to six years is held in the College building, thus affording to students special advantages for observation and practice. A definite amount of time is prescribed for observation in the kindergarten by both seniors and juniors. During

the second half-year, practice-teaching is substituted for observation for the seniors in the regular course. No practice-teaching is guaranteed to any but regular students.

The department is thoroughly equipped for efficient work. The large and sunny kindergarten room is provided with all the necessary materials for carrying on a model kindergarten. Ample classrooms and free access to the library and study-hall afford exceptional opportunities for study and research.

For requirements of admission to the general course, see page 71.

For admission to special course of two years, leading to departmental diploma, see page 72.

Latin

LATIN IX. Lectures on the history of Greek and Roman prose fiction. Two hours. Professor PECK

Tu. and Th. at 11.30.

Open as elective to qualified students.

LATIN X. The private life of the Romans. Illustrated lectures, with supplementary readings. Two hours. Dr. McCREA

Open as elective to qualified students.

EDUCATION 21. Methods of teaching Latin in secondary schools. Lectures, essays, discussions, reports of observation, and practice-teaching. Three hours weekly during the year, counting as a two-hour course. First half-year, Latin XI, Latin bibliography, Professor PECK; second half-year, Mr. C. M. BAKER

M. and W. at 2.30, and an additional hour for observation to be arranged.

Open to seniors who have satisfactorily completed courses in Latin to the amount of nine hours. Required of students who are candidates for the college diploma in Latin.

Manual Training

I. Whittling for elementary schools. A course in freehand whittling, adapted for the lower grades of the grammar school and for operation in the regular classroom. Practice work.

Four hours weekly throughout the year, counting as a two-hour course. Miss WEISER

Hours to be arranged, Elementary Wood-working Room, Macy Building.

Required of all first-year students who are candidates for a diploma in manual training for elementary schools.

2. Joinery for elementary schools. A course employing simple bench tools, adapted to the upper grades of the grammar school, and dealing with simple finished pieces. Shopwork. Six hours weekly throughout the year, counting as a three-hour course. Mr.

Hours to be arranged, Joinery Room, Macy Building.

Required of all students who are candidates for a diploma in manual training for elementary schools.

3. Joinery for secondary schools. In this course a very complete set of tools is introduced and a wide range of operation is covered. The models aim at a direct appeal to the life and interest of the pupil. Shopwork. Ten hours weekly throughout the year, counting as a five-hour course. Mr.

Hours to be arranged, Advanced Wood-working Room, Macy Building.

Required of all second-year students who are candidates for the departmental diploma in manual training for elementary schools, and of first-year students, candidates for the departmental diploma in manual training for secondary schools.

4. Turning and pattern-making. The course in turning aims chiefly to develop delicacy of manipulation and appreciation of good form and grace of outline. The work in pattern-making deals with technical methods and constructions, and relates directly to the course in molding. Shopwork. Eight hours weekly throughout the year, counting as a four-hour course. Mr. FINCH

Hours to be arranged, Advanced Wood-working Room, Macy Building.

Open as elective to second-year students who are candidates for the departmental diploma in manual training for secondary schools.

This course can be taken only in connection with Course 5.

5. Molding and foundry practice. This course deals, first, with the bench molding of small patterns, and afterward with the operations of dry sand, loam, and swept work. Shopwork. Four hours weekly throughout the year, counting as a two-hour course. Mr. FINCH

Hours to be arranged, Foundry, Macy Building.

Open as elective to second-year students who are candidates for the departmental diploma in manual training for secondary schools.

This course can be taken only in connection with Course 4.

6. Forging and sheet-metal work. In this course the work takes the direction, to a large extent, of simple decorative treatment as applied to examples of a useful character. Shopwork. Twelve hours weekly throughout the year, counting as a six-hour course. Mr.

Hours to be arranged, Forge Shop, Macy Building.

Open as elective to second-year students.

7. Machine work. A course in filing and fitting, followed by a comprehensive training upon the various tools of the thoroughly equipped machine shop. Shopwork. Twelve hours weekly throughout the year, counting as a six-hour course. Mr. BENNS

Hours to be arranged, Machine Shop, Macy Building.

Open as elective to second-year students.

8. Mechanical drawing. A course for beginners, devoted chiefly to a study of methods and principles of the working drawing. Four hours weekly throughout the year, counting as a two-hour course. Mr. ROUILLON

M. and W., 1.30-3.30, Mechanical Drawing Room, Macy Building.

Open as elective to qualified students. Required of first-year students who are candidates for the departmental diploma in manual training.

9. Mechanical drawing. An advanced course involving analytical drawing and practical draughting, arranged with reference to the needs of manual training teachers, and also as a preparation for teaching the subject. Six hours weekly

throughout the year, counting as a three-hour course. Mr. ROUILLON

Hours to be arranged, Mechanical Drawing Room, Macy Building.

Open as elective to qualified students. Required of second-year students who are candidates for the departmental diploma in manual training.

10. Principles and methods of manual training. The educational philosophy of manual training; methods and matter; history and development of manual training in the United States and Europe; comparative study of courses from representative schools in our own and in foreign countries; the problem of equipment, including compilation of costs and the preparation of plans; the organization and supervision of public school work. Lectures and conferences. Two hours weekly. Professor RICHARDS and instructors.

Hours to be arranged, Conference Room, Macy Building.

The facilities of the department library afford great assistance in this course, in which considerable reading and original work is required.

Required of all students who are candidates for a diploma in manual training.

EDUCATION 22. Methods of teaching manual training in elementary and secondary schools. Lectures, reports on reading and observation, practical work. Three hours weekly throughout the year, counting as a two-hour course. Professor RICHARDS and instructors.

EXTENSION COURSES

1. Whittling for elementary schools. A course in whittling and constructive drawing, adapted to the conditions of the ordinary schoolroom. Two hours weekly throughout the year. Miss WEISER

Hours to be arranged, Elementary Wood-working Room, Macy Building.

Registration and tuition fee, \$5.

2. Joinery. This course is similar in character to Course 2, but opportunity is provided for advanced work. Two hours weekly throughout the year. Mr.

Hours to be arranged, Joinery Room, Macy Building.

Registration and tuition fee, \$5.

3. Mechanical drawing. A course in working and geometrical drawing, especially adapted to the needs of teachers in the public schools. Two hours weekly throughout the year. Mr. ROUILLON

Hours to be arranged, Mechanical Drawing Room, Macy Building.

Registration and tuition fee, \$5.

The department occupies three floors of the Macy Manual Arts Building. This building, completely equipped, was given to Teachers College by Mrs. Josiah Macy, as a memorial of her husband. The machinery, tools, apparatus, and furniture constituting the equipment have been selected with great care, or designed especially for the purpose. The departmental library contains many books, pamphlets, periodicals, photographs, and reports of great service to students of manual training. In the conference room and in the workrooms are collections of models, carvings, and courses of instruction from our own and foreign countries. The purpose has been to make the building and equipment as complete as possible and thoroughly adapted to its use.

The purpose of the courses in manual training is to train teachers and supervisors of manual training for the elementary and secondary schools, and throughout the course methods and models are considered solely in relation to this end. Hand skill is indeed sought for and a high standard of performance insisted upon, but this fact is only an incident in the larger aim of relating such skill to the uses of the school. The end always in view is the significance of the work in character building, and methods and exercises are measured by the degree that they contribute to this end.

The regular course includes: (1) a thorough training in practical work, accompanied by careful study of the significant features of each model, with especial reference to its adjustment, æsthetic character, and economy. (2) Instruction in mechanical and freehand drawing and in decorative design, as related to the needs of manual training. (3) Classroom and conference study of the philosophy, methods, and prob-

lems of manual training. (4) Systematic instruction in psychology and the history of education. A combined course in manual training and drawing will be arranged for intending teachers of those subjects in elementary schools. All the above courses regularly require two years of residence, but those who fulfill the requirements of admission and wish to adapt themselves to a more limited field may pursue special courses of one year's duration.

Each candidate for the diploma is required to observe classes in the Horace Mann School and, to a limited extent, opportunities for practice-teaching in these classes will be arranged. In the upper elementary school there are classes in whittling and joinery; and in the high school classes in joinery, wood-turning, pattern-making, foundry work, forging, sheet-metal work, machine work, mechanical drawing.

Certain courses in this department are arranged for students in the School of Engineering, Columbia University. These courses aim to afford a comprehensive study of tools, materials, and methods involved in engineering processes, considered from the economic as well as from the technical standpoint. They are outlined in the catalogue of the School of Engineering, being entitled Mechanical Engineering III, IV, V, etc.

For admission requirements, see pages 72 and 73; for courses of study, see pages 89 and 93.

A special circular, giving more complete information of the scope of this department, will be ready for distribution early in May.

Mathematics

I. Teachers' review of arithmetic, algebra, and plane geometry. An attempt is made to render each subject as coherent as possible. The language side of mathematics is emphasized, and accurate adaptation of language to thought is secured by practice in translation. Special attention is given to factoring and its use in the solution of equations and the simplification of operations. In geometry, problems of construction, and numerical applications are used from the beginning, and students are rendered largely independent of textbooks by being taught logical methods of attacking propositions. Three hours weekly throughout the year. Professor BIKLÉ

M., W., and F. at 10.45, Mathematical Room, Milbank Building.

Open as elective to all second and third-year students.

EDUCATION 23. Methods of teaching mathematics in secondary schools. A review of arithmetic, algebra, geometry, and trigonometry, with special reference to the needs of secondary schools; the relations of mathematics to other subjects of the curriculum; practical applications within the scope of the secondary school; study of the literature, observation, and practice in preparing and teaching series of typical lessons. Three hours weekly throughout the year, counting as a two-hour course. Professor BIKLÉ

Hours to be arranged, Mathematical Room, Milbank Building.

Open as elective to properly qualified students. Required of students who are candidates for the college diploma in secondary teaching.

EDUCATION 24. Methods of teaching mathematics in elementary schools. Lectures upon arithmetic, algebra, and geometry, their relation to one another and to other subjects of the curriculum, particularly to science and manual training. Conferences, observation, and discussions. Three hours weekly during the second half-year. Professor BIKLÉ

M., W., and F. at 1.30, Mathematical Room, Milbank Building.

Open as elective to qualified students. Required of third-year students who are candidates for the college diploma in elementary teaching.

Students taking work in this department will have an opportunity of observing the teaching of mathematics in all the grades of the Horace Mann School, extending from the primary grades through the high-school course. Practice in teaching will be provided for qualified students under the usual restrictions. Advanced students will be able to take advantage of the courses offered by Columbia University. See Columbia University Catalogue, 1897-98, pages 93-96.

Music and Voice Training

1. Tone production, sight-reading, and theory. The fundamental principles of tone production; sight-reading in the ma-

for keys; rudimental theory. Two hours weekly throughout the year. Mr. VIEHL

W. and F. at 10, Music Room, Milbank Building.

Required of first-year students who are candidates for the college diploma in elementary and kindergarten teaching.

2. Tone production, sight-reading, and theory. Vocalization; sight-reading of chromatically altered chords; harmony. Two hours weekly throughout the year. Mr. VIEHL

Tu. and Th. at 10, Music Room, Milbank Building.

Required of all second-year students who are candidates for the college diploma in elementary and kindergarten teaching.

3. Tone production, sight-reading, and theory. Vocalization; sight-reading of chromatically altered chords; harmony. Two hours weekly throughout the year. Mr. VIEHL

Tu. and Th. at 3.30, Music Room, Milbank Building.

Required of all third-year students who are candidates for the college diploma in elementary and kindergarten teaching.

4. Singing and theory. The selection and interpretation of kindergarten and school songs; the proper use of the child voice in singing; harmony. Two hours weekly throughout the year. Mr. VIEHL

W. and F. at 10.45, Music Room, Milbank Building.

Open as elective to fourth-year students.

The purpose of this department is fourfold: To develop and strengthen the voice with a view to training teachers to use their voices in class teaching without becoming unnecessarily fatigued; to teach sight-reading with a view to meeting the musical requirements of the schools; to study the structure of music, so that teachers may intelligently explain the music sung by their classes; and to select and interpret rote songs and other music suitable for use in the kindergarten and elementary school.

Students who have satisfied the instructor of music as to their proficiency may, under the usual restrictions, be admitted to observation and practice-teaching in the Horace Mann School. Here they will have the opportunity to observe and study critically the most approved methods of teaching music to children, with some practice in teaching

songs selected from the writings of Beethoven, Mozart, Haydn, Mendelssohn, Schumann, Schubert, Reinecke, Abt, and others.

The Department of Music in Columbia University is open to properly qualified students of Teachers College, and music lovers will find in New York City many opportunities for gratifying their tastes. Lectures on musical theory, free concerts, and recitals are always within reach of students.

Philosophy and Ethics

PHILOSOPHY A. Elements of psychology. Hyslop's *Syllabus of Psychology*, James's *Psychology*. Lectures, practical exercises, and recitations. Three hours weekly, first half-year. Professor HYSLOP, assisted by Dr. MACVANNEL (Columbia College); Mr. (Teachers College).

Columbia College division, M., W., and F. at 1.30, during the first half-year. Room 422, Library Building.

Teachers College division, M., W., and F. at 11.30, during the first half-year. Room 20, Main Building.

This course is required of all members of the junior class in Columbia College, and must be taken by all university students who desire to enter the advanced courses, unless they have had an equivalent course elsewhere. It is also required of all Teachers College students who are candidates for a diploma.

The treatment of the subject is general, and is designed to be an introduction to psychology, having special reference to the definition of psychological terms and the fundamental laws of mind. Particular stress is laid on modern scientific methods of psychology, upon its value as an educational instrument, and upon certain pathological features which are interesting and important to the physician and the lawyer. This part of the course, like the succeeding, aims at a practical knowledge of the subject rather than a purely speculative treatment of it.

Course A may not be counted toward the degree of Master of Arts and Doctor of Philosophy.

PHILOSOPHY I. Historical introduction to Philosophy. Weber's *History of Philosophy*, Windelband's *History of Philosophy*, Külpe's *Introduction to Philosophy*. Lectures, discussions, and private reading. Three hours weekly. Professor BUTLER, assisted by Dr. WILDE

M., W., and F. at 2.30, Room 422, Library.

This course embraces a general survey of systematic thought from the rise of Greek philosophy to the present time, with particular reference to the development of the conceptions and problems of philosophy. Especial stress is laid upon the relations between philosophy and the development of civilization, as shown in the institutions, art, and literature of various nations and periods. This course serves as a general introduction to the study of philosophy.

Open as elective to properly qualified students.

PHILOSOPHY II. Ethics, introductory course. Hyslop's *Elements of Ethics*. Lectures, essays, and discussions. Professor HYSLOP, assisted by Dr. WILDE

Tu. and Th. at 2.30, Room 417, Library Building.

This course aims to give a careful and systematic analysis of elementary conceptions in ethics, with an examination of the fundamental doctrines of this branch of philosophy. It deals largely with theoretical problems, but devotes a portion of the time to practical questions. The principal subjects treated are conscience, its nature, origin, and authority, with particular reference to the doctrine of evolution; motives; the will and its freedom; utilitarianism, and its opposing theories; the doctrine of rights; and the duties of the individual, the family, and the state.

Open as elective to properly qualified students.

PHILOSOPHY VIII. History and principles of æsthetics. Lectures, discussions, and private reading. Dr. WILDE

M. and W. at 11.30, Room 417, Library Building.

This course discusses the origin and development of theories concerning the nature and function of the beautiful. Primarily, it is a history of theories, but these are considered as far as possible in relation to the concrete esthetic consciousness of the time, and not merely as parts of philosophical systems. For a knowledge of the general history of culture, of which esthetic theory is a part, the student is advised to take Course I. References are to Lübke's *History of Art*, Knight's *Philosophy of the Beautiful*, and Bosanquet's *History of Esthetics*.

Open as elective to properly qualified students.

PHILOSOPHY IX. Applied logic and scientific method. Lectures and discussions. Professor HYSLOP, assisted by Dr. MACVANNEL

M., W., and F. at 1.30, second half-year.

One of the three hours a week will be spent in the critical examination of a special author, whose statements, opinions, and inferences

will be analyzed and tested by the principles of logic. Two hours will be given to lectures and discussions, which will be based upon Jevon's *Principles of Science* and Mill's *Logic*, with references to Venn, Keynes, Wundt, Sigwart, and Bosanquet.

Open as elective to properly qualified students.

Psychology

PSYCHOLOGY I. Introduction to psychology. Lectures and demonstrations. Professors BUTLER, CATTELL, STARR, and HYSLOP, Drs. FARRAND, WILDE, and BOAS, and Mr. STRONG Tu. and Th. at 11.30, Psychological Laboratory.

The object of this course is to give a summary view of the subject-matter and methods of modern psychology. The ground covered is as follows:

- A. Prolegomena to psychology, including a sketch of the history of psychology, a statement of its methods and of its relations to philosophy and to the other sciences. Six lectures. Professor BUTLER
- B. Representative modern psychologists: Hartley, James Mill, Herbart, Lotze, Fechner, Wundt, and Herbert Spencer. Seven lectures. Dr. WILDE
- C. Physiological psychology: relations of mind and brain; anatomy of spinal cord and nerves; physiology of spinal cord and nerves; anatomy of the brain; physiology of the brain; localization of brain function; end-organs of sense; general questions of physical and mental correlation, sleep, dreams, etc. Eight lectures. Dr. FARRAND
- D. Experimental psychology: laboratory methods in psychology; vision; hearing and the lower senses; movement and feeling; attention, association, and memory; mental time; mental intensity; mental extensivity. Eight lectures. Professor CATTELL
- E. Comparative psychology: mental development of the lower animals; relation of mind of man to that of the lower animals; mental development of primitive man; language; speech and gesture; writing; ideas of number and counting; the infant's mind; the child's mind; individual differences; mental and social development. Eight lectures. Dr. BOAS
- F. Pathological psychology: diseases of movement; diseases of sensation; diseases of mind. Three lectures. Dr. STARR
- G. General psychology: Sensation and its relation to the problems of knowledge; the general process of perception; theories

of space perception; the perception of space; the nature and formation of conceptions; reasoning, knowledge, and belief; nature and functions of emotion; nature and functions of the will. Eight lectures. Professor HYSLOP

- H. Philosophical psychology: The nature of explanation in psychology; the psychological theory of matter; the psychological theory of mind; materialism as a philosophy; the relations between mind and body; consciousness and evolution. Six lectures. Mr. STRONG

Open as elective to properly qualified students.

PSYCHOLOGY II. Experimental psychology. Introductory course. Lectures, themes, and laboratory work. Professor CATTELL

Tu. and Th. at 10.30, Psychological Laboratory.

This course is planned for Seniors in the College and others having an equivalent training. It is introductory to the more advanced courses in experimental psychology, and is intended to give such knowledge of modern psychological methods and results as should be included in a liberal education. The senses are studied during the first half-year with due regard to the interrelations of physics, physiology, and psychology. Special attention is given to vision and hearing, including the scientific basis of music. Methods for studying defects of the senses, as required in the practice of the physician or supervision of the school, are especially considered.

In the second half-year the higher mental processes are studied in so far as this can be done by experimental methods. The subjects taken up are the relations of mind and body, feeling and movement, observation, memory, imagination, association and sub-consciousness and the measurement of the time, intensity, and extensity of mental processes.

Members of this course are recommended to read James's *Principles of Psychology* and Wundt's *Physiologische Psychologie*. The chief reading, however, consists in the working up of special topics, say four in the course of the year, by each student. The topics are selected by the student himself with reference to experiments made by the class. He collates these experiments with reference to special work already published on the subject.

Open as elective to properly qualified students.

PSYCHOLOGY VIII. Physiological psychology, general course. Lectures, demonstrations, and laboratory work. Dr. FARRAND

M., W., and F. at 10.30, Psychological Laboratory.

This course consists of lectures, demonstrations, and laboratory work on the anatomy and physiology of the central nervous system. A brief general discussion of its development through lower forms to the higher will be followed by a more thorough study of the anatomy of the human central nervous system, this in turn leading up to its physiology. Attention is called throughout to the psychological bearing of the facts under discussion.

Open as elective to properly qualified students.

Physical Science

1. General chemistry. Brief course in chemistry adapted to those who need the first principles of the subject, but who do not intend to teach it. Textbook: Remsen's *Advanced Course*. One hour lecture or recitation, and four hours' laboratory work weekly during the first half-year, counting, with Course **2**, as a three-hour course. Professor WOODHULL and Miss VAN ARSDALE

Tu. at 9.15, Science Lecture Room; M. and W., 1.30-3.30, Chemical Laboratory, Main Building.

Open as elective to qualified students. Required of first-year students who are candidates for the college diploma in kindergarten and elementary teaching.

2. General physics. Dynamics of fluids; heat, electricity, and magnetism. Textbooks: Carhart and Chute's *Elements of Physics*, Tyndall's *Heat a Mode of Motion*, and Thompson's *Electricity and Magnetism*. One hour lecture or recitation, and four hours' laboratory work during the second half-year, counting, with Course **1**, as a three-hour course. Professor WOODHULL and Miss VAN ARSDALE

Tu. at 9.15, Science Lecture Room; M. and W., 1.30-3.30, Physical Laboratory, Main Building.

Open as elective to qualified students. Required of first-year students who are candidates for the college diploma in kindergarten and elementary teaching.

3. Chemistry of foods and stimulants. The preparation and the physical and chemical properties of the principal classes of foodstuffs, including carbohydrates, fats, proteids, and the prin-

cipal stimulants, as alcohol, caffeine, nicotine, morphine, cocaine, with special reference to the needs of the household; the principal physical and chemical properties and tests of drinking water, and of milk, bone, blood, bile, and other constituents of the body, including the chief principles of digestion. Lectures, recitations, and laboratory work. Professor PELLEW and Mr. TUCKER

Tu., 10.30-12.30, and W. at 4.30, Industrial Laboratory, Havemeyer Hall.

Open to qualified second-year students. Required of first-year students who are candidates for the departmental diploma in domestic science.

4. The history of science. Lectures, essays, and collateral reading. One hour weekly throughout the year. Professors WOODHULL, DODGE, and LLOYD

Hour to be arranged, Science Lecture Room, Main Building.

Open as elective to fourth-year students.

EDUCATION 25. The teaching of physical science in secondary schools. The selection, arrangement, and treatment of subject-matter suitable for the secondary schools; equipment and management of laboratories. Laboratory exercises, observation, and preparation for practice-teaching. Three hours weekly throughout the year, counting as a two-hour course. Professor WOODHULL

Hours to be arranged, Science Rooms, Main Building.

Open as elective to properly qualified students. Required of fourth-year students who are candidates for the college diploma in physical science.

The College laboratories of chemistry, physics, biology, and geography are large and specially equipped for the purpose of illustrating secondary teaching, and are daily used by the classes of the Horace Mann School. Candidates for the college diploma are expected during the fourth year to observe this work and, when properly qualified, to undertake practice-teaching in these classes. The Horace Mann School, with its complete course of science instruction from kindergarten to college, offers special advantages for observation to those fitting themselves as

high-school teachers, supervisors of science-teaching, or normal-school teachers. The new and finely equipped laboratories of Columbia University offer ample facilities for advanced study and research in all departments of science. The library of the department is well supplied with educational books in science, and students of the department have access to the library of Columbia University. The leading educational and scientific journals of America, England, France, Germany, and certain other countries are on file in the reading-room.

Persons desiring further information regarding courses in physics, chemistry, biology, or geography and geology, should send for the special circular of the Department of Science.

For courses in biology see pages 20-24.

For courses in geography and geology see pages 36-39.

Physical Training

1. Gymnastics. Work with clubs, dumb-bells, wands, and with heavier apparatus; fancy marches, games, and basket-ball. Informal talks are given from time to time on anatomy, healthful dress, and hygiene, which are fully illustrated by the human skeleton, charts, wearing apparel, and other appliances. Two hours weekly throughout the year (no credit). Mrs. LAWRENCE, Mr. JARDINE, Miss SEWARD, and Miss HAYES

Hours to be arranged, Gymnasium, Main Building.

This course or its equivalent is required of all college students in each year.

2. Swedish gymnastics. Exercise and drill in Swedish system; methods of teaching gymnastics in elementary schools. Two hours weekly throughout the year, counting as a one-hour course. Mrs. LAWRENCE

Hours to be arranged, Gymnasium, Main Building.

Open as elective to properly qualified fourth-year students. Students who elect this course will be excused from the requirements of Course 1 in the fourth-year.

The aim of this department is to insure health for students while undergoing their college course; to give them ease and grace in movement, and to teach them the importance of physical development as a part of a complete education. All students will be required before

beginning their work in this department to undergo a thorough physical examination by one of the college physicians, or by a physician approved by the College.

Members of all classes are required to have the gymnastic suits adopted by the College. No exception is made to this rule. Arrangements have been made with the Young Women's Christian Association, 7 East Fifteenth street, New York City, to furnish the women's and girls' suits for \$5 each. They should be made before gymnastic work begins—*i.e.*, by the middle of October. In ordering, Teachers College should be mentioned. Arrangements have been made with Johnson & Stoutenburgh, 53 West Forty-second street, New York City, to furnish the boys' suits for \$3.40 each; this includes low shoes, with rubber soles.

ADMISSION

General Regulations

1. Each candidate must bring from the principal of the school last attended by him, or from some other person equally qualified to give it, a recommendation for admission, certifying to the moral character of the applicant, and his qualifications for undertaking professional work.

2. No candidate can be admitted who is not in good physical condition. A physician's certificate to this effect, presented upon application for admission, or an examination by the college physician, or both, are required.

3. Entrance examinations are held on the Friday and Saturday following Commencement, and on the Wednesday and Thursday preceding the first Monday in October. In 1898 the dates are June 3 and 4 and September 28 and 29. In exceptional instances, for reasons of weight, examinations may be given at other times than those here specified. In every such case a fee of \$5 payable in advance is charged. The revenue from this source is applied to the scholarship fund.

4. Students admitted conditionally to any class will be held under probation till the end of the first half-year. At that time the Dean, with the advice of the Committee of the Faculty on Admission Requirements, will decide as to each conditioned

student, whether he shall be dropped from the roll of the College or have his period of probation extended.

5. Except with the approval of the Dean and the Committee on Admission no student will be admitted to the class next above the one he first enters until all his entrance conditions have been removed.

6. Candidates for admission to advanced standing must make application in writing to the Dean. Each application will be considered on its own merits. Such tests will be imposed in each case as will best demonstrate the applicant's ability to undertake the work proposed. Students from colleges and professional schools that maintain courses the equivalent of those in Teachers College may receive credit on admission to Teachers College for such courses as have been satisfactorily completed.

7. Students in good standing in any department of Columbia University may be admitted to Teachers College upon the presentation of a certificate, signed by the Dean of the Faculty in which they are primarily registered, stating that they have permission to undertake certain designated courses of professional study.

8. All students are required to present themselves for registration on the Friday or Saturday of the week preceding the first Monday of October in each year. Enrollment at a later date is permitted only to those who obtain the consent of the Dean, good cause for the delay having been shown. The presence of all students is required on the day immediately following the close of all vacations and recesses.

9. At the time of registration each student must file with the Registrar a list of studies for the year approved by the Dean. No change will be permitted in such registered lists except with the consent of the Dean, and no credit will be allowed for any course not approved and registered in this manner.

10. Special students must present in writing at the time of registration a statement from each instructor whose classes they desire to enter, showing that they are qualified to undertake such studies and that they have permission so to do.

11. Immediately after registration each student must present

his registration card, with the proper fee, to the Cashier, who will issue a receipt, without which no student can be admitted to any academic exercise.

12. Students who have paid their fees in other departments of the University, or who hold scholarships, or receive the benefit of free or reduced tuition, must obtain from the Registrar a certificate to that effect.

Secondary Course

13. Candidates for the Teachers College diploma in biology, English, French, geography and geology, German, Greek, history, Latin, mathematics, or physical science, must be either college graduates or candidates for the degree of A.B. in Columbia University. The regulations for admission to this course, therefore, conform in all respects to the requirements for admission to Columbia College.

14. All candidates for admission to the Freshman class must pass satisfactory examinations in the following subjects:

ENGLISH, LATIN, and MATHEMATICS,

and also in one of the following groups of subjects:

I	{	GREEK FRENCH	II	{	GREEK GERMAN	III	{	A NATURAL SCIENCE WITH LABORATORY WORK	{	CHEMISTRY PHYSICS or BOTANY
								AND THREE OF THE FOLLOWING SUBJECTS:		
								ADVANCED MATHEMATICS		
								FRENCH		
								GERMAN		
								HISTORY, AMERICAN OR ENGLISH		

Students are designated in accordance with the subjects they present at entrance, as follows:

Group I Offering Greek and French

Group II Offering Greek and German

Group III Offering advanced mathematics, natural science, French, German, and history.

15. *English:*

No applicant will be accepted in English whose work is notably defective in point of spelling, grammar, idiom, punctuation, or division into paragraphs.

1. Reading and Composition.—The candidate will be required to present evidence of a general knowledge of the subject-matter of the prescribed books, and to answer simple questions on the lives of their authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to show the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present an exercise book, properly certified by his instructor, containing compositions or other written work done in connection with the reading of the books.

The candidate is expected to read intelligently all the books prescribed. He should read them as he reads other books; he is not expected to know them minutely, but to have in mind their most important parts. In preparation for this part of the requirement, it is important that the candidate shall have been instructed in the fundamental principles of rhetoric.

Candidates offering this part of the requirement as a preliminary subject should be prepared on the books prescribed for the year in which they are to take their final examination, *i.e.*, preliminary candidates who are to be examined on part 2 of the English requirement in 1899 should be prepared on the books in the 1899 list.

The books prescribed for this part of the examination are as follows:

In 1898: Milton's *Paradise Lost*, Books I and II; Pope's *Iliad*, Books I and XXII; The Sir Roger de Coverley Papers in *The Spectator*; Goldsmith's *Vicar of Wakefield*; Coleridge's *Ancient Mariner*; Southey's *Life of Nelson*; Carlyle's *Essay on Burns*; Lowell's *Vision of Sir Launfal*; Hawthorne's *House of the Seven Gables*.

In 1899: Dryden's *Palamon and Arcite*; Pope's *Iliad*, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in *The Spectator*; Goldsmith's *Vicar of Wakefield*; Coleridge's *Ancient Mariner*; De Quincey's *Flight of a Tartar Tribe*; Cooper's *Last of the Mohicans*; Lowell's *Vision of Sir Launfal*; Hawthorne's *House of the Seven Gables*.

In 1900: Dryden's *Palamon and Arcite*; Pope's *Iliad*, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in the *Spectator*; Goldsmith's *Vicar of Wakefield*; Scott's *Ivanhoe*; De Quincey's *Flight of a Tartar Tribe*; Cooper's *Last of the Mohicans*; Tennyson's *Princess*; Lowell's *Vision of Sir Launfal*.

2. Study and Composition.—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon subject-matter, literary form, and grammatical and logical structure. After 1898 the candidate may be required, in addition, to answer questions involving the essentials of English grammar, and questions on the leading facts in those periods of English literary history to which the prescribed works belong.

In connection with the reading and study of the required books, parallel or subsidiary reading should be encouraged, and a considerable amount of English poetry should be committed to memory. The essentials of English grammar should not be neglected in preparatory study.

The books prescribed for this part of the examination are as follows:

In 1898: Shakspeare's *Macbeth*; Burke's *Speech on Conciliation with America*; De Quincey's *Flight of a Tartar Tribe*; Tennyson's *Princess*.

In 1899: Shakspeare's *Macbeth*; Milton's *Paradise Lost*, Books I and II; Burke's *Speech on Conciliation with America*; Carlyle's *Essay on Burns*.

In 1900: Shakspeare's *Macbeth*; Milton's *Paradise Lost*, Books I and II; Burke's *Speech on Conciliation with America*; Macaulay's *Essays on Milton and Addison*.

16. *Latin*: *

1. The translation of passages selected from the portions of Cicero and Vergil specified in the preparatory course (see below), with questions designed to test the candidate's understanding of the passages, and also questions on the subject-matter.
- 2a. The translation at sight of passages adapted to the proficiency of candidates who have studied Latin in a systematic course of at least five lessons a week for three years, the passages to be selected from Nepos, Cæsar, and Ovid, or from other simple prose and verse.
- 2b. The translation at sight of passages adapted to the proficiency of candidates who have studied Latin in a course of at least five

*For the requirements here stated in Latin, Greek, French, and German, certain equivalents will be accepted in 1898; on and after January 1, 1899, they will be obligatory. For particulars see the Columbia University Catalogue, 1897-98, pp. 154-156.

lessons a week for one year beyond the requirement of 2*a*, the passages to be selected from Cicero's speeches, Vergil, and Ovid's *Metamorphoses*, or from other prose and verse of no greater difficulty.

[In connection with the passages set for translation at sight (2*a* and 2*b*), questions may be asked on ordinary forms, constructions, and idioms, and on prosody, and also questions designed to test the candidate's understanding of the passages set.]

3. A thorough examination on a prescribed portion of Cicero's speeches (for three years, beginning with 1898, the 2*d*, 3*d*, and 4*th* orations against Catiline), directed to testing the candidate's mastery of the forms, constructions, and idioms of the language; the test to consist in part of writing simple Latin prose, involving the use of such words, constructions, and idioms only as occur in the orations prescribed.
4. The translation into Latin prose of a passage of connected English narrative. The passage set for translation will be based upon some portion of the prose works specified in 1 (see below), and will be limited to the subject-matter of those works.

The preparatory course, on which the examinations will be based, is defined as follows:

1. The course should include:

Easy reading, included in or following a suitable introductory book, amounting to from 30 to 40 pages*;

Nepos and Cæsar, 90 to 120 pages;

Cicero, the speech on the Manilian Law, the four against Catiline, and either the speech for Archias or the Fourteenth Philippic, with additional speeches at the option of the teacher, 90 to 120 pages in all.

Vergil, *Æneid* I-VI, with additional selections from Ovid and Vergil at the option of the teacher, 6,000 to 8,000 verses in all.

2. Throughout the preparatory course pupils should be constantly guided in proper methods of reading and should be trained to read the Latin understandingly, as Latin, before undertaking to render it into idiomatic English. There should also be constant practice in reading aloud, with due expression, and in hearing the language read.
3. After the completion of the introductory lessons, a systematic study of Latin grammar with practice in writing Latin should be maintained throughout the course.

17. *Mathematics:*

1. Arithmetic: No formal examination as a separate requirement.

* The pages of the more recent Teubner text editions are taken as a standard in this statement.

A knowledge of the metric system and the ability to reckon accurately are to be presupposed.

2. Algebra: Factors, common divisors and multiples, fractions, equations of the first degree with one or more unknown quantities, involution, including the binomial theorem for positive entire exponents, evolution, the doctrine of exponents, radicals, and equations involving radicals, quadratic equations of one or two unknown quantities, and equations solved like quadratics, ratio and proportion, and putting problems into equations.

The preliminary examination will include and be confined to the following topics: Factors, common divisors and multiples, fractions, equations of the first degree with one or more unknown quantities, evolution, the doctrine of exponents, radicals; the remaining subjects named will be required in the final examination.

3. Geometry: Plane Geometry, including the solution of simple original exercises and numerical problems.

18. *Advanced Mathematics*: (As required in group III.)

1. Algebra: Quadratic equations of one and two unknown quantities and equations solved like quadratics, ratio and proportion, variation, arithmetical and geometrical progressions, the principle of undetermined coefficients, including its application to series and partial fractions, variables, and limits, convergency of series, the binomial theorem for fractional and negative exponents, logarithms, including the exponential and logarithmic series, permutations, combinations, and probability. [Equivalent of these topics as treated in the College Algebra of Wentworth or Wells.]
2. Geometry: Volumetric and spherical geometry. [Equivalent of Davies's Legendre, Books 6-9.]

19. *Greek*:

1. Grammar. A thorough knowledge of the common forms, idioms, and constructions, and of the general grammatical principles of Attic prose Greek, to be tested by an examination on a prescribed portion of Xenophon (for the next five years Xenophon's *Anabasis*, Books I and II). The test is to consist in part of questions, in part of simple sentences set for translation into Greek; it may include also translation from Greek into English.
2. Attic Prose at sight. Translation at sight of a passage adapted to the proficiency of those who have read not less than 130 Teubner pages of Attic prose. The candidate is expected to show in his translation accurate knowledge of the forms and structure of the language, and an intelligent comprehension of the whole passage.
3. Homer. Ability to translate a passage from some prescribed por-

tion of the Homeric poems (for the next three years, *Iliad*, Book I and Book II, vv. 1-493), and to answer questions designed to test the candidate's understanding of the passage, as well as questions upon poetic forms, constructions, and prosody.

4. Homer at sight. Ability to translate at sight a passage of ordinary difficulty from the *Iliad* or *Odyssey*, with the aid of a vocabulary of the less usual words.
5. Composition. Ability to translate into Attic prose a passage of connected English narrative, employing the more common words and constructions of some prescribed text. (For the next five years a candidate will be allowed his choice between a passage based on Xenophon's *Anabasis*, Books I and II, and a passage based on Xenophon's *Cyropædia*, Book I, Chaps. I to V, inclusive.)

NOTE: Throughout the preparatory course pupils should be constantly guided in proper methods of reading and should be trained to read the Greek understandingly, as Greek, before attempting to render it into idiomatic English. There should also be constant practice in reading aloud, with due expression, and in hearing the language read.

20. *French:*

1. The translation at sight of ordinary Nineteenth Century Prose.

It is important that the passages set be rendered into clear and idiomatic English. It is believed that the power of translating at sight ordinary nineteenth century prose can be acquired by reading not less than four hundred duodecimo pages from the works of at least three different authors. Not more than one-half of this amount ought to be from works of fiction. This number of pages is to include not only prepared work, but all sight reading done in class.

2. The translation from English into French of sentences or of a short connected passage to test the candidate's familiarity with elementary grammar.

Elementary grammar is understood to include the conjugations of regular verbs, of the more frequent irregular verbs, such as *aller*, *envoyer*, *tenir*, *pouvoir*, *voir*, *vouloir*, *dire*, *savoir*, *faire*, and those belonging to the classes represented by *ouvrir*, *dormir*, *connaître*, *conduire*, and *craindre*; the forms and positions of personal pronouns, the uses of other pronouns and of possessive, demonstrative, and interrogative adjectives; the inflection of nouns and adjectives for gender and number, except rare cases; the uses of articles, and the partitive constructions.

NOTE.—Pronunciation should be carefully taught and pupils be trained to some extent to hear and understand spoken French. The writing of French from dictation is recommended as a useful exercise.

21. *German:*

1. The rudiments of grammar, and especially these topics: the declension of articles, adjectives, pronouns, and such nouns as are readily classified; the conjugation of weak and of the more usual strong verbs; the commoner prepositions; the simpler uses of the modal auxiliaries; the elementary rules of syntax and word order. The proficiency of the applicant will be tested by questions on the above topics and by the translation into German of simple English sentences.
2. Translation at sight of a passage of easy prose containing no rare words. It is believed that the requisite facility can be acquired by reading not less than two hundred duodecimo pages of simple German.

NOTE.—Practice in pronunciation, in writing German from dictation, and in the use of simple German phrases in the classroom is recommended.

22. *History:*

1. American. The equivalent of Johnston's, or Scudder's, or McMaster's textbooks.
2. English. The equivalent of Gardner's, or Oman's, or Montgomery's textbooks.

23. *Chemistry:*

1. The non-metallic elements, as usually given in high school textbooks.
2. An approved laboratory course of at least forty experiments actually performed at school, by the candidate, as given in Remsen's, or Armstrong and Norton's Laboratory manuals.

24. *Physics:*

1. The equivalent of Hall and Bergen's textbook of physics;
2. An approved laboratory course of at least forty experiments, actually performed at school by the candidate.

25. *Botany:*

1. The equivalent of Bergen's textbook of Botany.
2. An approved laboratory course involving the detailed examination of not less than forty plants.

General Courses

26. Candidates for admission to the four-years' courses leading to the college diploma in elementary and kindergarten teaching, and in art, domestic art, domestic science, and man-

ual training, must be governed by one of the following regulations:

1. They must present an academic diploma from the Regents of the University of the State of New York; or,
2. Give evidence of having completed a satisfactory course in a secondary school; or,
3. Pass satisfactory examinations in the following subjects—*
 - (a) *English*:
Same as above, page 66, paragraph 15.
 - (b) *History*:
The equivalent of Myer's History of Greece and Allen's History of Rome.
 - (c) *Mathematics*:
Same as above, page 68, paragraph 17, 1-3.
 - (d) Either *Latin*, *French*, or *German* as follows:
Latin.—Translation at sight of simple Latin, with ordinary questions in grammar. The preparatory course should include the reading of 100 to 125 pages of Nepos and Cæsar, following a suitable introductory book.
French.—Same as above, page 70, paragraph 20, 1-2.
German.—Same as above, page 71, paragraph 21, 1-2.
 - (e) Either *Chemistry*, *Physics*, or *Botany*, as above, page 71, paragraphs 23, 24, 25.

Departmental Courses

27. Candidates for admission to the two-years' courses leading to departmental diplomas in art, domestic art, domestic science, and manual training must be experienced teachers, or persons of mature age, who give promise of becoming able teachers of these subjects. They must also present

1. An academic diploma from the Regents of the University of the State of New York; or,
2. A certificate of graduation from an approved secondary school, or normal school; or,
3. Pass satisfactory examinations in the following subjects:
 - (a) *English*:
Same as above, page 66, paragraph 15.

* The entrance examination is designed to test the ability of the candidate to undertake the course of study, and not merely to ascertain the character and the amount of his acquired knowledge. In June and September, 1898, students may enter Teachers College in the manner prescribed in the Circular of Information for 1897-98; in 1899 and thereafter the requirements here given will be obligatory.

(b) *General History:*

The equivalent of Myer's *Ancient, Mediaeval, and Modern History*.

(c) *Algebra, or plane geometry:*

Same as above, page 69, paragraph 17, 2 or 3.

(d) *Physics:*

Same as above, page 71, paragraph 24.

(e) *Chemistry:* Required only from candidates for admission to the course in domestic science.

Same as above, page 71, paragraph 23.

(f) *Freehand Drawing:* Required only from candidates for admission to the courses in art and domestic art.(g) *Mechanical drawing:* Required only from candidates for admission to the course in manual training.

The equivalent of the first sixty pages of Rouillon's *Course in Mechanical Drawing*.

(h) *Woodworking:* Required only from candidates for admission to the course in manual training.

The elementary principles of woodworking and considerable skill in the use of the principal tools.

Substantial equivalents of an academic or technical nature may be offered in lieu of any of the above examination requirements except those in English and history.

Special Courses

28. The College offers special courses of study to persons of proper qualifications who wish, without reference to any degree or diploma, to make a serious study of any special subject, or group of subjects. Each candidate for admission to such special courses must make application in writing to the Dean, and give evidence of ability to use the English language correctly and of special fitness for the study that he wishes to pursue.

Except for reasons of weight, no one will be received as a special student who has, within ten months of the time of his application, been rejected as a regular student by the Committee on Admission, or has, within that time, become deficient as a regular student.

GRADUATE COURSES

Students who are prepared to undertake advanced courses of study will find exceptional opportunities in Teachers College and other departments of Columbia University. Ample facilities are offered for research and investigation in all lines of educational activity. Persons of superior ability and culture, whether holders of a bachelor's degree or not, may be admitted to advanced standing in the College and allowed to do graduate work. No one should become a candidate, however, for a higher diploma who is not prepared to undertake original research and investigation.

Regulations for University Degrees

1. Candidates for the degree of Master of Arts and Doctor of Philosophy must hold a bachelor's degree, or its equivalent from a European institution, and are required to select one major and two minor subjects, and to pursue the same in residence for a minimum period of one and two years, respectively. Ordinarily a somewhat longer time is required to obtain the degree of Doctor of Philosophy. Students who have been in residence in another university will be given credit therefor; but a residence of at least one year at Columbia University is required of all candidates for these degrees.

The detailed regulations governing candidates for these degrees will be found in the Catalogue of Columbia University for 1897-8, pages 145-148, or in the announcement for the current year of the School of Philosophy of Columbia University (which will be sent on request free of charge), pages 5-9.

2. Teachers College students who are candidates for either of these degrees will be required to observe the following additional regulations:

(a) The subjects chosen as major and minor must receive the approval of the Dean of Teachers College.

(b) Education must be chosen either as the major subject, or as one of the two minor subjects by every candidate for either of these degrees. When any candidate for a higher de-

gree selects courses in Education amounting to more than six hours per week, he may be permitted to count the subject of Education as the equivalent of a major and one minor subject.

(c) Each student must register in that Faculty of Columbia University under whose jurisdiction the major subject chosen by him lies.

Regulations for the Higher Diploma

1. Candidates for the higher diploma of Teachers College must be (a) graduates of an approved institution of learning, a college, engineering school, normal school, or the equivalent of one of these, and (b) must present satisfactory evidence of a high degree of professional ability as a result of pedagogical study or experience in teaching.

2. Candidates for the higher diploma must pursue their studies in residence for a minimum period of one year. The time required to complete the course will depend in each case upon the student's ability to do the work that may be assigned.

3. Each student who declares himself a candidate for the higher diploma shall, immediately after registration, designate, as the studies of his course, one major subject and two minor subjects, one of which must be the theory and practice of teaching. A student may select his subjects in any department of the College, with the approval of the professor concerned. It is expected that the student will devote fully half of his time to the major subject. The character of the work in each subject will be determined by the professors in charge of the subjects selected.

4. Each candidate for the higher diploma shall present an acceptable essay on some educational topic previously approved by the professor in charge of his major subject, which essay shall give evidence of original investigation. The candidate must have this essay approved by the professor in charge of his major subject before he is admitted to examination.

5. Every candidate for the higher diploma, in addition to passing such examinations as may be required by the professors in charge of his minor subjects, shall be subjected to an

oral examination on his major subject, in the presence of the entire faculty of Teachers College, or so many of its members as may desire to attend.

FELLOWSHIPS AND SCHOLARSHIPS

TEACHERS COLLEGE FELLOWSHIPS

1. Four fellowships, known as "Teachers College Fellowships," each of the value of five hundred dollars a year, were founded by the Board of Trustees in 1896. These fellowships are awarded annually by the Faculty of Teachers College to those applicants who give evidence of special fitness to pursue courses of higher study and original investigation in education, the competition to be open to graduates of all colleges and scientific schools, and to teachers of experience who may be qualified to become candidates for the higher diploma of Teachers College. Vacancies occurring in any such fellowships shall be filled in the same manner in which original appointments are made.

2. The application shall be made prior to May 15 (in 1899 and thereafter, April 15), in writing, addressed to the Dean of Teachers College. The term of the fellowship is one year, dating from July 1. Residence should begin October 1.

3. The candidate must give evidence

(a) of a liberal education, such as a testimonial of the satisfactory completion of a systematic course of study;

(b) of decided fitness for undertaking original research in educational lines, such as an example of some professional work already performed;

(c) of upright character, such as a testimonial from some instructor.

4. The value of each fellowship is five hundred dollars. Payments will be based on the time during which the fellow shall have been in residence, and are made in quarterly installments, beginning November 1. The holder of a fellowship is exempt from the charges for tuition.

5. Every holder of a fellowship will be expected to perform such duties as may be allotted to him in connection with his course of study, which course shall be such as to lead to a higher degree or the higher diploma, Education in each instance being the major subject. He will be expected before the close of the academic year to give evidence of progress by the preparation of a thesis, the completion of a research, the delivery of a lecture, or by some other method. He must reside in New York or vicinity during the academic year.

6. No holder of a fellowship shall be permitted to accept any remunerative employment during his term. With the written approval of the Dean, but not otherwise, he may give instruction or assistance in any department of Teachers College.

7. A fellow may be reappointed at the end of a year for reasons of weight. No fellow may be reappointed for more than two terms of one year each.

MANUAL TRAINING FELLOWSHIP

8. A fellowship known as the "Manual Training Fellowship" was founded in 1896 by the Trustees of Teachers College for the encouragement of research in the manual arts. It is awarded annually by the Faculty in the same manner as are other College Fellowships. The income of this fellowship is five hundred dollars, payable in quarterly installments, beginning November 1, and the holder is exempt from all charges for tuition.

9. This fellowship will be awarded to the one who gives evidence of being able to contribute most toward the solution of the problem of manual training in the elementary school. Each applicant must have been a successful teacher of manual training to children from nine to thirteen years of age; he must submit a course of study planned by himself for some grade or grades of the elementary school; he must have sufficient command of the English language to write acceptably for publication. It is desirable that he have a complete college educa-

tion and be able to read German readily. If there should be no suitable applicant for this fellowship, it will be awarded on the same conditions as obtain for other College Fellowships.

TEACHERS COLLEGE SCHOLARSHIPS

10. Ten scholarships, established by the Trustees of Teachers College in 1898, will be awarded annually on the same conditions as obtain for the College Fellowships. They are of an annual value of one hundred and fifty dollars, and may be renewed for a second term of one year in case the holder gives evidence of superior ability.

11. Payments will be made to College scholars in two equal installments: One on October 1 and one February 13. College scholars will be required to pay all the fees established for matriculation, tuition, and graduation.

12. Applications for College Scholarships should be made in writing, and addressed to the Dean of Teachers College. In 1898 applications will be entertained at any time prior to September 1. An unsuccessful applicant for a fellowship may apply for a scholarship without changing the form of his original application.

13. Teachers College scholars will be required to enroll themselves as candidates for a higher degree or the higher diploma and pursue a regular course of study leading thereto.

14. All College fellowships and scholarships are open, under the general regulations of Columbia University and Teachers College, to men and women alike.

UNDERGRADUATE SCHOLARSHIPS

15. A scholarship known as the "Tileston Scholarship," of the annual value of seventy-five dollars, founded in 1891 by Mrs. Peter M. Bryson, is awarded annually at the discretion of the Faculty to an undergraduate student of the College.

16. A scholarship known as the "Shackelford Scholarship," of the annual value of seventy-five dollars, founded in 1892 by

the Misses Shackelford, is awarded annually at the discretion of the Faculty to an undergraduate student of the College.

17. A scholarship known as the "Pierrepont Scholarship," of the annual value of seventy-five dollars, founded in 1893 through Miss Annie L. Pierrepont, is awarded annually at the discretion of the Faculty to an undergraduate student of the College.

18. A scholarship known as the "Pond Scholarship," of the annual value of seventy-five dollars, founded and endowed in 1895 by Mrs. Frank Porter, is awarded annually at the discretion of the Faculty to an undergraduate student of the College.

19. A scholarship known as the "Low Scholarship," of the annual value of four hundred dollars, founded in 1895 by Miss Annie L. Pierrepont, is awarded annually at the discretion of the Faculty to a student in the Kindergarten Department. The income of this scholarship pays matriculation and tuition fees and board, room, and laundry-work at College Hall.

20. A scholarship known as the "Charlotte Louisa Williams Scholarship," of the annual value of one hundred and fifty dollars, founded and endowed in 1897 by Mrs. Peter M. Bryson and Miss Grace H. Dodge, is awarded annually at the discretion of the Faculty. This scholarship is open to women only.

21. A scholarship known as the "Earl Scholarship," of the annual value of one hundred and fifty dollars, founded and endowed in 1897, is awarded annually at the discretion of the Faculty. This scholarship is open to men only.

College Loan Funds

RUTH LOAN FUND

A fund known as the "Ruth Loan Fund" was established in 1896, to enable students in the later years of the course to supplement means already at their command. In several instances this fund has made it possible for students to attend the College who would otherwise have been unable to do so. The student

is required to give a note for the amount borrowed, payable at some definite time, with interest at two per cent.

Application should be made prior to September 1, in writing, addressed to the Dean of Teachers College

GENERAL LOAN FUND

A fund known as the "General Loan Fund" was established in 1897. Its purpose and regulations are identical with those of the Ruth Loan Fund.

STUDENTS' AID FUND

In a limited number of cases, the College is able to offer students clerical work, or work of similar nature, payable from the Students' Aid Fund, at the rate of twenty-five cents an hour. This work can be granted only to students whose scholarship and health warrant the assignment. Application should be made before September 1, in writing, addressed to the Dean of Teachers College.

FEES AND EXPENSES

The regulations in regard to fees are as follows:

<i>For matriculation</i> (paid but once).....	\$ 5 00
<i>For tuition</i> (per annum):	
For candidates for any degree or the higher diploma	150 00
For candidates for the college diploma in the fourth year of a general course.....	100 00
For candidates for the college diploma in the first, second, or third year of a general course.....	75 00
For candidates for a departmental diploma.....	75 00
For students in special courses for each hour of instruction per week for the year (except when special fees are stated; maximum fee, \$150).....	15 00

For graduation:

For a diploma.....	\$5 00
For the degree of master of arts.....	25 00
For the degree of doctor of philosophy.....	35 00

Students in a general or departmental course who take electives in Columbia or Barnard will be required to pay an additional fee of \$5 for each hour of such instruction per week for the year, the maximum fee in any case being \$150.

For the convenience of students tuition fees are payable in two equal installments, namely, on October 1 and February 13. Special students, however, must pay the fees for the entire year in advance.

In case of withdrawal on account of illness the loss may be divided between the student and the institution; in case of withdrawal on other grounds, or in case of withdrawal from a class in which only a limited number of candidates can be received, the student is liable for the entire fee. Immediate notification of withdrawal must be given to the Registrar.

There are certain additional expenses to which students are liable, but which can not be accurately stated. A fair estimate is as follows: Annual examination by the college physician, \$2; gymnasium suit, \$5; books, \$18.

For expenses of living at College Hall see page 100.

COURSES OF STUDY

General Regulations

1. Students who are candidates for a degree or a diploma are registered as regular students; students not candidates for a degree or a diploma are registered as special students.

2. No student is permitted to register in one year for courses amounting to more than eighteen hours' credit; in this reckoning two hours of observation or laboratory or shop-work count as one hour.

3. The Dean and the head of the department concerned may, for reasons of weight, permit any study prescribed for a diploma to be taken out of its regular order in the course.

4. Elective courses are offered subject to withdrawal if elected by fewer than three students.

5. A minimum credit of sixty hours is required for graduation in a general course leading to the college diploma, and thirty hours in a departmental course leading to a departmental diploma.

6. In all general courses a total credit of forty-two hours is considered an essential prerequisite to promotion to the fourth-year class, of twenty-five hours to the third-year class, and of nine hours to the second-year class; in all departmental courses a total credit of twelve hours is required for admission to the second-year class.

7. All students are required to take systematic physical exercise in the College gymnasium, to the extent of two hours weekly throughout the course, unless excused for cause.

Secondary Course Leading to the Degree of A.B. and the College Diploma

1. For the requirements for admission to this course see pages 65-70.

2. The attention of students is called to the following regulations relating to the selection of studies and to the requirements for the degree of Bachelor of Arts and the diploma of Teachers College:

(a) Students of Teachers College candidates for the baccalaureate degree must register in Columbia (or Barnard) College and pursue the regular course leading to such degree.

(b) Students of Columbia (or Barnard) College candidates for the college diploma must register in Teachers College and pass satisfactory examinations in the following courses: Philosophy A, Education 1, 2, and 3, and Education 11, 12, 13, 15, 16, 17, 18, 19, 21, 22, 23, or 25, according to the subjects elected.

(c) All candidates for the college diploma must present satisfactory evidence of having passed, with an average grade of C, courses amounting to at least *nine* hours in one of the following subjects: Biology, English, French, geography and geology, German, Greek, history, Latin, mathematics, or physical science.

(d) The courses in subject-matter, referred to in the preceding paragraph, must be approved by the Dean of Teachers College. The Dean is authorized to require so much additional attention to subject-matter in any case as he may deem necessary.

(e) All candidates for the college diploma must demonstrate their ability to teach the subject in which the diploma is sought. Properly qualified students will be given the privilege of teaching in the Horace Mann School at such times and to such extent as may be necessary.

3. The combined course of study prescribed for the degree of A.B. in Columbia College and the diploma of Teachers College is as follows:

GROUP I—*Students entering on Greek and French*

Freshman Year

Prescribed (12 hours): Latin A or B, or Greek B *

German A

Mathematics A

Rhetoric A

Elective (3 hours): French I

History I

Either Latin A or Greek B,—*i.e.*, Latin, if the student has taken Greek as his prescribed ancient language, or *vice versa*

Chemistry I

Physics I

Sophomore Year

Prescribed (7 hours): History A

Rhetoric B

One of the following: Botany I, Chemistry I, III, IV, Physics I, II, Zoölogy II

Elective (9 hours): Courses elected by candidates for the college diploma must be approved by the Dean of Teachers College

GROUP II—*Students entering on Greek and German*

Freshman Year

Prescribed (12 hours): As in Group I, except that French A is substituted for German A

Elective (3 hours): As in Group I, except that German I is substituted for French I

Sophomore Year

Prescribed (7 hours): As in Group I

Elective (9 hours): As in Group I

* Courses designated by letters and Roman numerals, as Philosophy A, Latin II, etc., are given in Columbia College; Teachers College courses are designated by Arabic numerals, as Education 5, etc.

GROUP III—*Students entering on advanced mathematics, natural science, French, and German*

Freshman Year

Prescribed (6 hours): Latin A or B
Rhetoric A *

Elective (9 hours): As in Group I, with the substitution of Greek A for Greek B, and with the addition of Chemistry III, IV, German I, Mathematics I, II, Mechanical Engineering I, and Physics II

Sophomore Year

Prescribed (4 hours): History A
Rhetoric B

Elective (12 hours): As in Group I

ALL GROUPS

Junior Year

Prescribed (3 hours), first half-year;

(6 hours), second half-year:

Philosophy A (first half-year)

Political Economy A (second half-year)

Rhetoric C

Education 3 (second half-year)

Elective (12 hours): Courses elected by candidates for the college diploma must be approved by the Dean of Teachers College

Senior Year

Prescribed (8 hours): Philosophy I

Education 1

Education 2

Elective (7 hours): Seniors who are candidates for the college diploma must include in their electives a two-hour course in methods for each subject in which the diploma is sought

* Rhetoric A for this class of students will be a five-hour course counting as three hours, unless the student elects Greek A.

General Course Leading to the College Diploma in Elementary Teaching

4. For the requirements for admission to this course see pages 71-72.

5. Candidates for the college diploma in elementary teaching must indicate at the time of registration for the fourth year whether they will specialize in the lower or the upper grades of the elementary school. The choice of electives will be determined in part by this decision.

6. The course of study prescribed for the college diploma in elementary teaching is as follows :

FIRST YEAR

Prescribed (15 hours) : English 1—Literature and composition
History 1—Mediæval and modern history
Biology 1—Botany
Physical Science 1—General chemistry
Physical Science 2—General physics
Art 1—Elementary freehand drawing
Music 1—Tone production, sight-reading,
and theory

Elective (3 hours).

SECOND YEAR

Prescribed (13 hours) : English 2—Literature and analysis
History 2—United States
Biology 2—Zoölogy
Geography 2—Elementary physiography
Geography 3—Geography of the United States
Art 14—Applied freehand drawing
Music 2—Tone production, sight-reading,
and theory

Elective (5 hours).

THIRD YEAR

Prescribed (12 hours): Philosophy A—Psychology and logic
Education 3—Applications of psychology
in teaching
Education 9—Physical and mental development
Education 14—Methods of teaching English
Education 24—Methods of teaching mathematics
Biology 3—Physiology and hygiene
Music 3—Tone production, sight-reading,
and theory

Elective (6 hours).

FOURTH YEAR

Prescribed (8 hours): Education 1—History of education
Education 2—Principles of education
Education 4—Observation and practice-teaching

Elective (10 hours).

General Course Leading to the College Diploma in Kindergarten Teaching

7. For the admission requirements to this course see pages 71-72.

8. The following subjects are required of all candidates for the college diploma in kindergarten teaching:

FIRST YEAR

Prescribed (15 hours): English 1—Literature and composition
 History 1—Mediæval and modern
 Biology 1—Botany
 Physical Science 1—General chemistry
 Physical Science 2—General physics
 Art 1—Elementary freehand drawing
 Music 1—Tone production, sight-reading, and theory

Elective (3 hours).

SECOND YEAR

Prescribed (13 hours): English 2 (first half-year)—Literature and analysis
 English 3 (second half-year)—The folk-story
 History 2—United States
 Biology 2—Zoölogy
 Geography 1—Elementary meteorology and oceanography
 Art 14—Applied freehand drawing
 Music 2—Tone production, sight-reading, and theory

Elective (5 hours).

THIRD YEAR

Prescribed (15 hours): Philosophy A—Psychology and logic
 Education 3—Applications of psychology in teaching
 Education 9—Physical and mental development

Kindergarten 1—Gifts and occupations

Kindergarten 2—Songs and games

Kindergarten 3—Stories

Biology 3—Physiology and hygiene

Music 3—Tone production, sight-reading,
and theory

Elective (3 hours).

FOURTH YEAR

Prescribed (13 hours): Education 1—History of education

Education 5—General method

Education 10—Primary methods

Kindergarten 4—Kindergarten principles

Kindergarten 5—Program and gift work

Kindergarten 6—Games

Kindergarten 9—Observation and practice-teaching

Elective (5 hours).

General Courses Leading to the College Diploma in Art, Domestic Art, Domestic Science, and Manual Training

9. For the requirements for admission to these courses see pages 71-72.

10. Candidates for the college diploma in art, domestic art, domestic science, or manual training will be required to pursue a four-years' course of study, which shall include all the technical and pedagogical subjects of the respective departmental courses (see below, paragraphs 12, 14, 16, and 18), together with such courses in Education and other subjects as may be assigned in each case by the Dean and the heads of departments concerned. Applications for admission to these courses should be made in writing to the Dean.

Course Leading to the Departmental Diploma in Art

11. For the requirements for admission to this course see pages 72-73.

12. The following subjects are required of all candidates for the departmental diploma :

FIRST YEAR

Prescribed (14 hours) : Philosophy A—Psychology and logic
Education 3—Applications of psychology
in teaching
Art 2—Light and shade
Art 6—Sketch class
Art 8—Clay modeling
Art 9—Design
Art 13—History of art
Manual Training 8—Mechanical drawing

Elective (4 hours).

SECOND YEAR

Prescribed (15 hours) : Education 1—History of education
Education 11—Methods of teaching drawing and art
Art 4—Water color and oil painting
Art 7—Advanced sketch class
Art 10—Advanced design
Art 11—Woodcarving

Elective (3 hours).

Course Leading to the Departmental Diploma in Domestic Art

13. For the requirements for admission to this course see pages 72-73.

14. The following subjects are required of all candidates for the departmental diploma :

FIRST YEAR

Prescribed (14 hours) : Philosophy A—Psychology and logic
Education 3—Applications of psychology
in teaching
Biology 3—Physiology and hygiene
Domestic Art 1—Sewing methods
Domestic Art 2—Textiles
Domestic Art 3—Drafting and making
garments
Art 9—Design
History 4—Industrial evolution of society
History 5—Social reform movements

Elective (4 hours).

SECOND YEAR

Prescribed (13 hours) : Education 1—History of education
Education 4—Observation and practice-
teaching
Domestic Art 4—Equipment and manage-
ment
Domestic Art 5—Household art and de-
sign
Art 10—Advanced design
Art 13—History of art

Elective (5 hours).

Course Leading to the Departmental Diploma in Domestic Science

15. For the requirements for admission to this course see pages 72-73.

I The following subjects are required of all candidates for the departmental diploma :

FIRST YEAR

Prescribed (15 hours) : Philosophy A—Psychology and logic
 Education 3—Applications of psychology
 in teaching
 Biology 3—Physiology and hygiene
 Biology 4—Bacteriology
 Domestic Science 1—Foods
 Domestic Science 2—Food production and
 manufacture
 Physical Science 3—Chemistry of foods
 and stimulants
 History 4—Industrial evolution of society

Elective (3 hours).

SECOND YEAR

Prescribed (14 hours) : Education 1—History of education
 Education 4—Observation and practice-
 teaching
 Domestic Science 3—Foods, advanced
 course
 Domestic Science 4—Home sanitation and
 management
 Domestic Science 5—Methods of teaching
 domestic science

Elective (4 hours).

Course Leading to the Departmental Diploma in Manual Training

17. For the requirements for admission to this course see pages 72-73.

18. The following subjects are required of all candidates for the departmental diploma :

FIRST YEAR

Prescribed (15 hours) : Philosophy A—Psychology and logic
Education 3—Applications of psychology
in teaching
Manual Training 1—Whittling for elementary schools
Manual Training 2—Joinery for elementary schools
Manual Training 8—Mechanical drawing
Manual Training 10—Principles and methods
Art 1—Elementary freehand drawing
Art 9—Design

Elective (3 hours).

Intending teachers of manual training in secondary schools will substitute Manual Training 3—Joinery for secondary schools—for Manual Training 1 and 2

SECOND YEAR

Prescribed (15 hours) : Education 1—History of education
Education 22—Methods of teaching manual training
Manual Training 3—Joinery for secondary schools
Manual Training 9—Mechanical drawing
Art 14—Applied freehand drawing

Elective (3 hours).

Intending teachers of manual training in secondary schools will substitute for Manual Training 3—Manual Training 4—Turning and pattern-making, and 5—Molding and foundry practice, or 6—Forging, or 7—Machine work, and omit Art 14

Course Leading to the Departmental Diploma in Kindergarten Teaching

With the approval of the Dean and the Director of the Kindergarten qualified students may become candidates for a departmental diploma in kindergarten teaching. Such candidates must present for admission the equivalent of the requirements prescribed for entrance to the departmental courses (see pages 74-75) and complete a two-years' course of study, which shall include all the subjects in Education and Kindergarten of the general course, and such other subjects as may be assigned by the Dean and heads of departments concerned.

LECTURES AND SPECIAL CLASSES

Special courses are organized in the several departments of the College for the benefit of teachers in the schools of New York and vicinity. For persons actually engaged in the work of teaching, but wishing to pursue further courses of professional study in order to enable them to meet satisfactorily the demands made upon them by the continual expansion and elevation of the school curriculum throughout the country, these classes will be found helpful. Detailed statements of these courses are given under the various departmental statements.

The College is also frequently the scene of important educational meetings, and each year it offers courses of lectures on educational, scientific, and literary subjects. By these means the students are enabled to meet and hear some of the foremost educators of the country. These lectures are usually open to the public, and announcements concerning forthcoming lectures may always be obtained from the Registrar.

In addition to the resources of the College, New York City offers to students unrivaled advantages in its museums of art and science, its libraries and laboratories, its lecture courses and concerts. Many of these are open to students of Teachers College on specially advantageous terms.

The following list shows the lectures given at the College during 1897-98, which are not mentioned elsewhere:

Dr. William T. Harris, Commissioner of Education. October 14 to November 4. Thursdays, 3.30 P.M.; Fridays, 2 P.M. Five lectures: The Literature of Education; Problems Peculiar to American Education; Opposition between Pestalozzi and Herbart as Educational Leaders; Rousseau and the Return to Nature; Herbert Spencer and What Knowledge is of Most Worth.

Superintendent Charles B. Gilbert, of Newark. November 13 to May 7. Saturdays at 2 P.M. School Supervision and School Management.

Professor James E. Russell, Dean of Teachers College. January 6 to April 16. Saturdays at 3 P.M. German Schools and School Systems. January 14, 4 P.M., Education Through Custom and Habit.

Miss Rouse, Traveling Secretary of the Students' Volunteer Movement. December 6, 4.30 P.M. Organization and Work of the Students' Volunteer Movement.

Mr. William L. Tomlins, Musical Director, Chicago. December 9, 3.30 P.M. Music for Children.

Professor William James, Harvard University. January 28, 3.30 P.M. The Gospel of Relaxation.

Professor N. S. Shaler, Harvard University. February 19, 12 M. The Influence of Environment on Education.

Dr. Charles H. Young, Columbia University. March 23, 3.30 P.M. Greek Dress.

Professor Benjamin Ide Wheeler, Cornell University. March 25, 3.30 P.M. The Easternmost Question.

Miss Susan E. Blow. April 19 to May 3. Tuesdays and Thursdays, 3.30 P.M. First lecture: The Value of the Kindergarten to the Community. The remaining four: Froebel's Mother-Play.

Dr. James L. Hughes, Inspector of Schools, Toronto, Canada. April 13, 3.30 P.M. Cooking and Sewing in Education.

Dr. Henry Van Dyke, New York. April 22, 3.30 P.M. Readings.

Professor William Knight, of St. Andrew's University. April 25, 3.30 P.M. Wordsworth.

SCHOOL OF OBSERVATION AND PRACTICE

A distinctive feature of the College is the opportunity it affords for practical work. Not only are the students encouraged to visit schools and familiarize themselves with the proc-

esses and results of teaching and supervision in the schools of New York and its vicinity, but they are also required, as soon as they have become qualified, to demonstrate their own ability to teach and judge of teaching, and to plan lessons and courses of study, in a school of observation and practice known as the Horace Mann School. In this school, every phase of school work is to be found in operation. In all grades and classes there are being worked out, from year to year, in the light of educational theory and practical experience, the typical educational problems of the day, and the students are made sharers with the teachers both in the processes and in the results of these investigations.

In the kindergarten opportunities are afforded the children, under the guidance of trained kindergartners, to associate with other children, and, through song, story, play, and like activities, to come in contact with life and lay the foundation for future studies.

During the seven or eight years following the kindergarten, usually from the sixth to the fourteenth year, children of requisite attainments may be placed in the elementary school, and there receive the elements of a liberal education. In these years they learn to use their mother tongue, to read and to love good reading; they study the beginnings of the world's history, and become intelligently interested in the history and government of their own country; they become acquainted with the facts and laws of nature—studying plants and animals, their types and families and how to know them, how they live and how they are adapted to their environment; studying the earth and how it changes and grows old, and how these changes affect the life of man; studying light, heat, air, and water, what they do and what can be done with them; they are taught to measure and calculate accurately and readily, and are trained to think and use common sense about the affairs of daily life; they learn to model, paint, and draw, to appreciate good form, color, and ornament, and to use tools and implements in making objects in paper, wood, and iron; they learn to sing by ear and by note, and (if girls) they learn the elements of housewifery; gymnastic exercise is given throughout the course, and, above

all, there is afforded to each child the opportunity of daily practice, under the most favoring conditions, in the art of living with others in society—the democratic society of an American school.

The next four years, from thirteen or fourteen to seventeen or eighteen, are spent in the high school. Choice is permitted at the outset, according to individual destination or aptitude, between a course leading to a college of liberal arts or to a professional or technical school, and a course designed to give a more general culture and training. A college preparatory pupil elects from the studies offered those required for entrance to the college of his choice. No such pupil is expected or permitted to take all the subjects offered; but every such pupil is encouraged to make his preparatory course as liberal as circumstances admit. The general course is intended primarily for those who will not enter college.

For further information concerning the Horace Mann School address the Principal.

BUILDINGS AND EQUIPMENT

The site of the College comprises thirty-three lots, situated on West One Hundred and Twentieth and One Hundred and Twenty-first streets, between Amsterdam avenue and the Boulevard. The situation is one of great beauty, commanding a view eastward of the Harlem River and the city, and northward and westward of the Hudson and the Palisades. The main buildings of Columbia University are across the way, Barnard College is on the next block, and near by are Riverside and Morningside Parks and Drives, the Grant Monument, St. Luke's Hospital, the sites of the Cathedral of St. John the Divine, and of the Academy of Design. The College is also readily accessible, being four minutes' walk from the crosstown cable road, which intersects all railways, and brings within reach the northern end of Manhattan Island and the Borough of the Bronx. Lines of cars, going north and south,

pass within half a block. One of these is an underground trolley line connecting with the Broadway cable, and carries passengers for one fare from the Battery and intervening points on the east and west sides. With the present means of transit, students come daily from suburban towns in New Jersey and Long Island, and from points in New York State and Connecticut.

The College buildings inclose a quadrangle,—the Main Building being on the south and east sides, the Milbank Memorial Building on the west, and the Macy Manual Arts Building completing the quadrangle on the north. All are so connected by corridors that they practically form one building.

The Main Building has a frontage of two hundred and thirty feet. On the first floor are the rooms of the Trustees, the Dean, the Registrar, the gymnasium, kindergarten, reception-room, and the main offices of the College. The second floor is devoted entirely to the classrooms and offices of the Horace Mann School. The third floor contains the Bryson Library and reading-rooms, teachers' offices, and the conference and lecture-rooms of the Department of Education. The fourth floor is occupied by the Department of Natural Science, and contains a lecture-room, with stereopticon; three finely equipped laboratories, for physics, chemistry, and geography, besides a departmental library, stockroom, and offices.

The Milbank Memorial Building, occupied for the first time in September, 1897, is the gift of Mr. Joseph Milbank, as a memorial of his parents. This building forms the western wing of the main edifice, and was erected at a total cost of \$250,000. The building contains Memorial Chapel; the offices and classrooms of the departments of English, history, mathematics, Latin and Greek, kindergarten and music; the lecture-rooms and laboratories of the Department of Domestic Science and Art; the biological laboratories of the Department of Natural Science; and also a large study room and social hall for the students of all departments, several additional classrooms for the Horace Mann School, a lunchroom, and a bicycle store-room. From all floors there are uninterrupted views of the Hudson and the Palisades.

The Macy Manual Arts Building, which was given by Mrs. Josiah Macy as a memorial of her husband, is occupied by the departments of Manual Training and Art. It was erected and equipped at a total cost of \$250,000. Architecturally this building is in harmony with the Main Building, with which it is connected on every floor. It is thoroughly equipped with the best of modern appliances for manual training and art work, and contains four large rooms for wood-working, including wood-joinery, wood-carving, wood-turning, and pattern-making; four for metal-working—chipping and filing, tin-smithing, molding and casting, forging and machine tool work; two for clay-modeling; two for constructive drawing—one mechanical and the other architectural; two for elementary freehand drawing; and two studios for advanced drawing and painting. Connected with these are storerooms for tools, supplies, models, and finished work. In addition to these there are a lecture-room, provided with a stereopticon, and many smaller rooms, such as offices, library, museum, conference-room, photography-room, engine-room, and stockroom.

The rooms and corridors throughout the building are filled with fine photographs, prints, and casts, carefully arranged in appropriate departments.

College Hall

The College provides in College Hall dormitory accommodations for a limited number of women students, who are under the care and supervision of a matron who directs the social and domestic life of the house.

College Hall is situated on Morningside Heights, within five minutes' walk of Teachers College, on the corner of Amsterdam avenue and One Hundred and Seventeenth street. On the first floor are the reception-room and general dining-room, and the three floors above are devoted to the bedrooms, with windows either east or west, whereby abundance of sun and air is assured to every room. The bedrooms are single, but are so arranged that two adjoining may be thrown together, and

used as bedroom and sitting-room if desired. The rooms are completely furnished and all bed and table linen is supplied by the College. An effort is made to keep the life home-like and pleasant, and free from all unnecessary restrictions and regulations.

The charge for board, room, and laundry work at College Hall is nine dollars weekly. During vacations room rent will be charged, and students who remain at the Hall will be charged the full regular rate. These fees are payable fortnightly, but it is understood that any one engaging a room is responsible for the whole fee for the half-year.

Early application is desirable, as the rooms are assigned according to the date of application.

The Registrar will recommend, to such students as can not be accommodated at the College Hall, boarding-houses near by, where board and lodging may be obtained at reasonable rates.

College Hall will be kept open during the months of June, July, and August, 1898. Persons desiring to spend a few weeks in the city, particularly those wishing to do research work in Columbia Library, will find at the Hall comfortable accommodations at reasonable rates. For particulars as to summer terms, etc., address the Registrar.

The Bryson Library

The library was founded by Mrs. Peter M. Bryson as a memorial of her husband. It contains over ten thousand volumes, comprising educational works in English, French, and German, and works on the theory and practice of teaching, psychology, sociology, anthropology, history of education, etc. Although the main purpose of the library is to afford to special students of education opportunities for research and advanced professional study, it also contains a selected list of general works on philosophy, history, literature, and science. For the use of the pupils of the school, the student-teachers, and the teachers of the city, there is also provided a collection of books

on history, literature, biography, geography, travels, arts, science, and technology, adapted to pupils in the elementary and secondary school. The library serves as reading-room, and has on file about one hundred and fifty of the leading periodicals, those bearing upon education being best represented, and including French, German, and English, as well as American publications. The annual additions to the library reach about 1,000 volumes.

The Columbia University Library

Students and officers of Teachers College have free access to the Columbia Library between the hours of 8.30 A.M. and 11 P.M. The library contains about 250,000 volumes, exclusive of unbound pamphlets and duplicates. The additions to the library for the past five years have averaged over 18,000 volumes annually. The library is well supplied in all the subjects taught in the various courses of the University.

The reference library, of about 10,000 volumes, consists of a carefully selected body of reference books and of the most important works on all subjects in standard editions, representing the leading authors in all literatures.

Connected with the stacks in which are stored the books relating especially to the departments of Philosophy, Education, Literature and Philology, the Sociological and Economic Sciences, Public Law, and History, are eighteen special study rooms, open only to authorized readers. This arrangement is intended to give to advanced students and investigators in these fields the fullest opportunity to carry on their work by the use of a quiet room in the immediate vicinity of the literature of their subjects.

DEVOTIONAL EXERCISES

Devotional exercises are conducted in Memorial Chapel every morning at 9 o'clock.

While Teachers College is a Christian institution, it is non-sectarian in spirit. It therefore welcomes all creeds to its classes, and invites every student to join daily in a devotional exercise conducted on the broadest possible plane of aspiration and worship.

STUDENTS' CLUB

This is entirely a student movement, having as its object the organization and regulation of all student interests. It is self-governing, having a president, executive committee, secretary, and treasurer. There are no fees or dues of any kind, and all students, whether regular or special, are eligible for membership.

Business meetings are held once a month, at which matters pertaining to the student body are discussed and passed upon. The social side is also an important part of the work of the Club, as well as that of keeping the students in touch with the important outside interests of the day. To meet these latter needs there are many informal teas and receptions, at which some guest of honor is entertained, in order to present some phase of the work with which he is connected.

Among the interests thus presented have been the social settlements, the Good Government Clubs, and the American Volunteers.

From time to time also excursions have been arranged, including visits to the Brooklyn Navy Yard, to the Statue of Liberty, expeditions to the various social settlements in the city, and several trips giving whole days in the country.

SCHEME OF ATTENDANCE

1898-1899

MONDAY, WEDNESDAY, AND FRIDAY

9.15	10.00	10.45	11.30	12.30	1.30	2.30	3.30	4.30
Art 3 [M. and W.]	Art 3 [M. and W.]	Art 3 [M. and W.]	Education 3		Art 8 [F.]	Art 8 [F.]	Biology 4 [M.]	Physical Science 3 [W.]
Art 4 [M. and W.]	Art 4 [M. and W.]	Art 4 [M. and W.]	Education 5		Domestic Art 3 [W.]	Domestic Art 3 [W.]	Domestic Art 3 [W.]	
Art 5 [M. and W.]	Art 5 [M. and W.]	Art 5 [M. and W.]	History 2		Domestic Science 2 [M.]	Domestic Art 4 [M. and W.]	Education 1	
Art 6 [F.]	Art 6 [F.]	Art 13 [F.]	Philosophy A		Domestic Science 5 [W. and F.]	Education 10 [W.]	Geography 2 [F.]	
Art 10 [F.]	Art 10 [F.]	Domestic Art 6 [W.]			Education 4 [M.]	Education 11 [M. and F.]	Geography 3 [F.]	
Biology 3 [M. and W.]	Biology 3 [W.]	Domestic Science 4 [W. and F.]			Education 11 [M. and F.]	Education 20 [W.]	History 4 [M.]	
Domestic Art 6 [W.]	Domestic Science 1 [M.]	English 3 [W. and F.]			Education 14	Education 21 [M. and W.]	History 5 [M.]	
Domestic Science 2 [F.]	Domestic Science 2 [F.]	English 4 [M.]			Geography 1	Geography 2		
Domestic Science 3 [M.]	Domestic Science 4 [W.]	History 1			Kindergarten 1	Geography 3		
Domestic Science 4 [W.]	Mathematics 1	Music 4 [W. and F.]			Kindergarten 5 [W. and F.]	Kindergarten 2		
English 1	Music 1 [W. and F.]				Manual Training 8 [M. and W.]	Kindergarten 7 [F.]		
					Physical Science 1 [M. and W.]	Manual Training 8 [M. and W.]		
					Physical Science 2 [M. and W.]	Physical Science 1 [M. and W.]		
					Physical Science 2 [M. and W.]	Physical Science 2 [M. and W.]		

SCHEME OF ATTENDANCE.

(Continued.)

TUESDAY AND THURSDAY

9.15	10.00	10.45	11.30	12.30	1.30	2.30	3.30	4.30
Art 2 Art 3 [Tu.] Art 4 [Tu.] Art 5 [Tu.] Art 7 [Th.] Kindergarten 3 Physical Science 1 [Tu.]	Art 1 Art 2 Art 3 [Tu.] Art 4 [Tu.] Art 5 [Tu.] Art 7 [Th.] Domestic Art 2 Music 2 Physical Science 1 [Tu.]	Art 1 Art 2 Biology 2 History 3 Physical Science 3 [Tu. 10.30-12.30]	Biology 2 Education 9 Kindergarten 4		Art 9 [Th.] Art 11 Art 14 Biology 1 Domestic Art 1 [Tu.] Domestic Science 1 Domestic Science 3 Kindergarten 6	Art 9 [Th.] Art 11 Art 14 Biology 1 Domestic Art 1 [Tu.] Domestic Science 1 Domestic Science 3 Education 8	Domestic Science 1 Domestic Science 3 Education 2 Music 3	
Physical Science 2 [Tu.]	Physical Science 3 [Tu. 10.30-12.30]							

GENERAL SUMMARY

OFFICERS

Officers of Administration.....	13
Officers of Instruction.....	68
Lecturers in 1897-98.....	12

STUDENTS

Candidates for the diploma.....	79
From other departments of the University.....	9
From Barnard College.....	23
Special Students.....	65
Extension Classes.....	299
School of Observation and Practice.....	391
Total.....	<hr/> 866

CALENDAR

- 1898—June 2—Thursday, Commencement Day.
June 3-4—Friday and Saturday, Examinations for admission.
Sept. 28-29—Wednesday and Thursday, Examinations for admission.
Sept. 30—Oct. 1—Friday and Saturday, Registration.
Oct. 3—Monday, First half-year begins.
Oct. 8—Saturday, Extension classes begin.
Nov. 8—Tuesday, Election Day, holiday.
Nov. 23—Wednesday night, Thanksgiving recess begins.
Nov. 26—Saturday night, Thanksgiving recess ends.
Dec. 22—Thursday night, Christmas recess begins.
- 1899—Jan. 3—Tuesday night, Christmas recess ends.
Feb. 6—Monday, Midwinter examinations begin.
Feb. 11—Saturday night, First half-year ends.
Feb. 12—Sunday, Lincoln's Birthday, holiday.
Feb. 13—Monday, holiday.
Feb. 14—Tuesday, Second half-year begins.
Feb. 22—Wednesday, Washington's Birthday, holiday.
March 27—Monday morning, Easter recess begins.
April 3—Monday night, Easter recess ends.
April 15—Monday, Last day for filing applications for fellowships and graduate scholarships.
May 30—Tuesday, Memorial Day, holiday.
June 1—Wednesday, Final examinations begin.
June 8—Thursday, Commencement Day.
June 9-10—Friday and Saturday, Examinations for admission.
Sept. 27-28—Wednesday and Thursday, Examinations for admission.
Oct. 2—Monday, First half-year begins.



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